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FORM 10-K

WEYERHAEUSER CO - WY

Filed: February 15, 2019 (period: December 31, 2018)

Annual report with a comprehensive overview of the company

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED 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 NUMBER 1-4825

WEYERHAEUSER COMPANY

A WASHINGTON CORPORATION

91-0470860

(IRS EMPLOYER IDENTIFICATION NO.)

220 OCCIDENTAL AVENUE SOUTH, SEATTLE, WASHINGTON 98104-7800 TELEPHONE (206) 539-3000

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

TITLE OF EACH CLASS	NAME OF EACH EXCHANGE ON WHICH REGISTERED:
Common Shares (\$1.25 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 (§ 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 (§ 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer

Smaller reporting company Emerging growth company

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

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

As of June 30, 2018, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was \$28.0 billion based on the closing sale price as reported on the New York Stock Exchange Composite Price Transactions.

As of February 4, 2019, 746,524 thousand shares of the registrant's common stock (\$1.25 par value) were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the *Notice of 2019 Annual Meeting of Shareholders and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019, are incorporated by reference into Part II and III.

WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K

TABLE OF CONTENTS

	PAGE
PART I	
ITEM 1. OUR BUSINESS	1
WE CAN TELL YOU MORE	1
WHO WE ARE	1
WHAT WE DO	2
EXECUTIVE OFFICERS OF THE REGISTRANT	18
NATURAL RESOURCE AND ENVIRONMENTAL MATTERS	19
FORWARD-LOOKING STATEMENTS	24
ITEM 1A. RISK FACTORS	25
ITEM 1B. UNRESOLVED STAFF COMMENTS	33
ITEM 2. PROPERTIES	33
ITEM 3. LEGAL PROCEEDINGS	33
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	33
ITEM 6. SELECTED FINANCIAL DATA	35
ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	36
ECONOMIC AND MARKET CONDITIONS AFFECTING OUR OPERATIONS	36
FINANCIAL PERFORMANCE SUMMARY	37
RESULTS OF OPERATIONS	38
LIQUIDITY AND CAPITAL RESOURCES	46
OFF-BALANCE SHEET ARRANGEMENTS	50
ENVIRONMENTAL MATTERS, LEGAL PROCEEDINGS AND OTHER CONTINGENCIES	50
ACCOUNTING MATTERS	50
PERFORMANCE MEASURES	52
ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	55
ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	56
REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM	56
CONSOLIDATED STATEMENT OF OPERATIONS	57
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME	58
CONSOLIDATED BALANCE SHEET	59
CONSOLIDATED STATEMENT OF CASH FLOWS	60
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY	61
INDEX FOR NOTES TO CONSOLIDATED FINANCIAL STATEMENTS	62
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS	63
ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	101
ITEM 9A. CONTROLS AND PROCEDURES	101
ITEM 9B. OTHER INFORMATION — NOT APPLICABLE	
PART III	
ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE	103
ITEM 11. EXECUTIVE AND DIRECTOR COMPENSATION	103
ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	103
ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS	103
ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES	103
PART IV	
ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES	104
EXHIBITS	104
ITEM 15. FORM 10-K SUMMARY	107
SIGNATURES	108

OUR BUSINESS

We are one of the world's largest private owners of timberlands. We own or control 12.2 million acres of timberlands in the U.S. and manage an additional 14.0 million acres of timberlands under long-term licenses in Canada. We manage these timberlands on a sustainable basis in compliance with internationally recognized forestry standards. Our objective is to maximize the long-term value of timberlands we own. We analyze each timberland acre comprehensively to understand its highest-value use. We realize this value in many ways, particularly through growing and harvesting the trees, but also by selling properties when we can create incremental value. In addition, we focus on opportunities to realize value for oil and natural gas production, construction aggregates and mineral extraction, wind and solar power, communication tower leases and transportation rights of way that exist in our ownership.

We are also one of the largest manufacturers of wood products in North America. We manufacture and distribute high-quality wood products, including structural lumber, oriented strand board (OSB), engineered wood products and other specialty products. These products are primarily supplied to the residential, multi-family, industrial, light commercial and repair and remodel markets. We operate 35 manufacturing facilities in the United States and Canada.

Our company is a real estate investment trust (REIT).

Sustainability and citizenship are part of our core values. In addition to practicing sustainable forestry, we focus on increasing energy and resource efficiency, reducing greenhouse gas emissions, reducing water consumption, conserving natural resources and offering sustainable products that meet our customers' needs. We operate with world class safety results, actively support the communities in which we operate and strive to communicate transparently with our investors and other stakeholders. We are the only North American forest products company included on the Dow Jones Sustainability North America Index, and we also are recognized for our leading performance in the areas of ethics, citizenship and gender equality.

In 2018, we generated \$7.5 billion in net sales and employed approximately 9,300 people who serve customers worldwide.

This portion of our Annual Report on Form 10-K provides detailed information about who we are, what we do and where we are headed. Unless otherwise specified, current information reported in this Form 10-K is as of or for the fiscal year ended December 31, 2018.

We break out financial information such as revenues, earnings and assets by the business segments that form our company. We also discuss the development of our company and the geographic areas where we do business.

Throughout this Form 10-K, unless specified otherwise, references to "we," "our," "us" and "the company" refer to the consolidated company.

WE CAN TELL YOU MORE

AVAILABLE INFORMATION

We meet the information-reporting requirements of the Securities Exchange Act of 1934 by filing periodic reports (annual reports on Form 10-K, quarterly reports on Form 10-Q), current reports on Form 8-K, proxy statements and other information with the Securities and Exchange Commission (SEC). These reports and statements — information about our company's business, financial results and other matters — and amendments to these reports and statements are available at:

- the SEC website — www.sec.gov;
- the SEC's Public Conference Room, 100 F St. N.E., Washington, D.C., 20549, (800) SEC-0330; and
- our website (free of charge) — www.weyerhaeuser.com.

When we file the information electronically with the SEC, it also is posted to our website.

WHO WE ARE

We were incorporated as *Weyerhaeuser Timber Company* in the state of Washington in January 1900, when Frederick Weyerhaeuser and 15 partners bought 900,000 acres of timberland. Today, we are working to be the world's premier timber, land, and forest products company for our shareholders, customers and employees.

REAL ESTATE INVESTMENT TRUST (REIT) ELECTION

Starting with our 2010 fiscal year, we elected to be taxed as a REIT. REIT income can be distributed to shareholders without first paying corporate level tax, substantially eliminating the double taxation on income. We expect to derive most of our REIT income from our timberlands, including gains from the sales of our standing timber and rent from recreational leases. We continue to be required to pay federal corporate income taxes on earnings of our Taxable REIT Subsidiary (TRS), which includes our Wood Products segment and a portion of our Timberlands and Real Estate, Energy and Natural Resources segments.

OUR BUSINESS SEGMENTS

In the *Consolidated Results* section of *Management's Discussion and Analysis of Financial Condition and Results of Operations*, you will find our overall performance results for our business segments, which are as follows:

- Timberlands;
- Real Estate, Energy and Natural Resources (Real Estate & ENR); and
- Wood Products.

Detailed financial information about our business segments and our geographic locations is provided in *Note 2: Business Segments* and *Note 22: Geographic Areas* in the *Notes to Consolidated Financial Statements*.

EFFECT OF MARKET CONDITIONS

The health of the U.S. housing market strongly affects the performance of all our business segments. Wood Products primarily sells into the new residential building and repair and remodel markets. Demand for logs from our Timberlands segment is affected by the production of wood-based building products as well as export demand. Real Estate is affected by local real estate market conditions, such as the level of supply or demand for properties sharing the same or similar characteristics as our timberlands. Energy and Natural Resources is affected by underlying demand for commodities, including oil and gas.

COMPETITION IN OUR MARKETS

We operate in highly competitive domestic and foreign markets, with numerous companies selling similar products. Many of our products also face competition from substitutes for wood products. We compete in our markets primarily through product quality, service levels and price. We are relentlessly focused on operational excellence, producing quality products customers want and are willing to pay for, at the lowest possible cost.

Our business segments' competitive strategies are as follows:

- Timberlands — Deliver maximum timber value from every acre we own or manage.
- Real Estate & ENR — Deliver premiums to timberland value by identifying and monetizing higher and better use lands and capturing the full value of surface and subsurface assets.
- Wood Products — Manufacture high-quality lumber, structural panels, and engineered wood products, as well as deliver complementary building products for residential, multi-family, industrial and light commercial applications at competitive costs.

OUR EMPLOYEES

We have approximately 9,300 employees. Of these employees, approximately 2,500 are members of unions covered by multi-year collective-bargaining agreements. More information about these agreements is provided in [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#).

WHAT WE DO

This section provides information about how we:

- grow and harvest trees,
- maximize the value of every acre we own and
- manufacture and sell wood products.

For each of our business segments, we provide details about what we do, where we do it, how much we sell and where we are headed.

TIMBERLANDS

Our Timberlands segment manages 12.2 million acres of private commercial timberlands in the U.S. We own 11.4 million of those acres and control the remaining acres through long-term contracts. In addition, we have renewable, long-term licenses on 14.0 million acres of Canadian timberlands. The tables presented in this section include data from this segment's business units as of the end of 2018.

WHAT WE DO

Forestry Management

Our Timberlands segment:

- plants seedlings to reforest harvested areas using the most effective regeneration method for the site and species (natural regeneration is employed and managed in parts of Canada and the northern U.S.);
- manages our timberlands as the trees grow to maturity;
- harvests trees to be converted into lumber, wood products, pellets, pulp and paper;
- manages the health of our forests to sustainably maximize harvest volumes, minimize risks, and protect unique environmental, cultural, historical and recreational value; and
- offers recreational access.

We seek to maximize the returns from our timberlands by selling delivered logs and through stumpage sales to both internal and external customers. We leverage our expertise in forestry and use intensive silviculture to improve forest productivity and returns while managing our forests on a sustainable basis. We use our scale, infrastructure and supply chain expertise to deliver reliable and consistent supply to our customers.

Competitive factors within each of our market areas generally include price, species, grade, quality, proximity to wood consuming facilities and the ability to consistently meet customer requirements. We compete in the marketplace through our ability to provide customers with a consistent and reliable supply of high-quality logs at scale volumes and competitive prices. Our customers also value our status as a Sustainable Forestry Initiative® (SFI) certified supplier.

Sustainable Forestry Practices

We manage our forests intensively to maximize the value of every acre and produce a sustainable supply of wood fiber for our customers. At the same time, we are careful to protect biological diversity, water quality and other ecosystem values. Our working forests also provide unique environmental, cultural, historical and recreational value. We work hard to protect these and other qualities, while still managing our forests to produce financially mature timber. We follow regulatory requirements, voluntary standards and certify 100 percent of our North American timberlands under the SFI Forest Management Standard.

Canadian Forestry Operations

In Canada, we manage timberlands under long-term licenses that provide the primary source of the raw material for our manufacturing facilities in various provinces. When we harvest trees, we pay the provinces at stumpage rates set by the government. We transfer logs to our

manufacturing facilities at cost and do not generate any significant profit in the Timberlands segment from the harvest of timber from the licensed acres in Canada.

Timberlands Products

PRODUCTS	HOW THEY'RE USED
Delivered logs: • Grade logs • Fiber logs	Grade logs are made into lumber, plywood, veneer and other products used in residential homes, commercial structures, furniture, industrial and decorative applications. Fiber logs are sold to pulp, paper, and oriented strand board mills to make products used for printing, writing, packaging, homebuilding and consumer products, as well as into renewable energy and pellets.
Timber	Standing timber is sold to third parties through stumpage sales.
Recreational leases	Timberlands are leased or permitted for recreational purposes.
Other products	Seed and seedlings grown in the U.S and chips. We previously produced plywood at our mill in Uruguay ⁽¹⁾ .

(1) Our Uruguayan operations were divested on September 1, 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further information on this divestiture.

HOW WE MEASURE OUR PRODUCT

We use multiple units of measure when transacting business including:

- Thousand board feet (MBF) — used in the West to measure the expected lumber recovery from a tree or log; and
- Green tons (GT) — used in the South to measure weight; factors used for conversion to product volume can vary by species, size, location and season.

We report Timberlands volumes in ton equivalents.

WHERE WE DO IT

We sustainably manage timberlands in twenty states. This includes owned or contracted acres in the following locations:

- 2.9 million acres in the western U.S. (Oregon and Washington);
- 6.9 million acres in the southern U.S. (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas and Virginia); and
- 2.4 million acres in the northern U.S. (Maine, Michigan, Montana, New Hampshire, Vermont, West Virginia and Wisconsin).

In Canada, we manage timberlands under long-term licenses that provide raw material for our manufacturing facilities. These licenses are in Alberta, British Columbia, Ontario (license is managed by partnership) and Saskatchewan (license is managed by partnership).

Our total timber inventory — including timber on owned and contracted land— is approximately 626 million tons. The amount of timber inventory does not translate into an amount of lumber or panel products because the quantity of end products varies according to the species, size and quality of the timber; and will change through time as these variables adjust.

We maintain our timber inventory in an integrated resource inventory system and geographic information system (“GIS”). The resource inventory component of the system is proprietary and is largely based on internally developed methods, including growth and yield models developed by our research and development organization. The GIS component is based on GIS software that is viewed as the standard in our industry.

Timber inventory data collection and verification techniques include the use of industry standard field sampling procedures as well as proprietary remote sensing technologies in some geographies. The data is collected and maintained at the timber stand level.

We also own and operate nurseries and seed orchards in Alabama, Arkansas, Georgia, Louisiana, Mississippi, Oregon, South Carolina, and Washington.

Summary of 2018 Standing Timber Inventory

GEOGRAPHIC AREA	MILLIONS OF TONS AT DECEMBER 31, 2018
	TOTAL INVENTORY ⁽¹⁾
U.S.:	
West	
Douglas fir/Cedar	160
Whitewood	33
Hardwood	14
Total West	207
South	
Southern yellow pine	263
Hardwood	84
Total South	347
North	
Conifer	32
Hardwood	40
Total North	72
Total Company	626
(1) Inventory includes all conservation and non-harvestable areas.	

WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K 4

Summary of 2018 Timberland Locations

GEOGRAPHIC AREA	THOUSANDS OF ACRES AT DECEMBER 31, 2018		
	FEE OWNERSHIP	LONG-TERM CONTRACTS	TOTAL ACRES ⁽¹⁾
U.S.:			
West			
Oregon	1,596	—	1,596
Washington	1,314	—	1,314
Total West	2,910	—	2,910
South			
Alabama	388	228	616
Arkansas	1,211	18	1,229
Florida	226	85	311
Georgia	618	50	668
Louisiana	1,023	351	1,374
Mississippi	1,131	75	1,206
North Carolina	563	—	563
Oklahoma	494	—	494
South Carolina	278	—	278
Texas	29	2	31
Virginia	123	—	123
Total South	6,084	809	6,893
North			
Maine	838	—	838
Michigan	556	—	556
Montana	658	—	658
New Hampshire	24	—	24
Vermont	86	—	86
West Virginia	256	—	256
Wisconsin	4	—	4
Total North	2,422	—	2,422
Total Company	11,416	809	12,225

(1) Acres include all conservation and non-harvestable areas.

We provide a year-round flow of logs to internal and external customers. We sell grade and fiber logs to manufacturers that produce a diverse range of products. We also sell standing timber to third parties and lease land for recreational purposes. Our timberlands are generally well located to take advantage of road, logging and transportation systems for efficient delivery of logs to customers.

Western United States

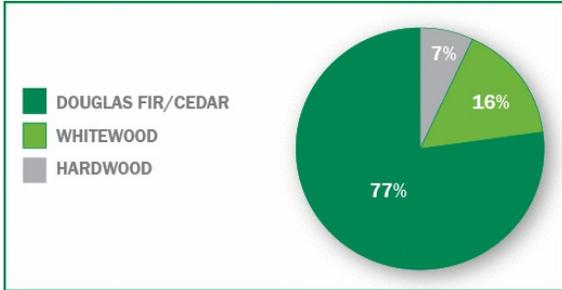
Our Western timberlands are well situated to serve the wood products and pulp markets in Oregon and Washington. Additionally, our location on the West Coast provides access to higher-value export markets for Douglas fir and whitewood logs to Japan, China and Korea. Our largest export market is Japan, where Douglas fir is the preferred species for higher-valued post and beam homebuilding. The size and quality of our Western timberlands, coupled with their proximity to several deep-water port facilities, competitively positions us to meet the needs of Pacific Rim log markets. For the year ended December 31, 2018, we sold 24 percent of our total western log sales volume internally.

Our holdings are composed primarily of Douglas fir, a species highly valued for its structural strength, stiffness and visual appearance. Most of our lands are located on the west side of the Cascade Mountain Range with soil and rainfall conditions considered favorable for growing this species. Approximately 80 percent of our lands are in established Douglas fir plantations. Our remaining holdings include a mix of whitewood and hardwood.

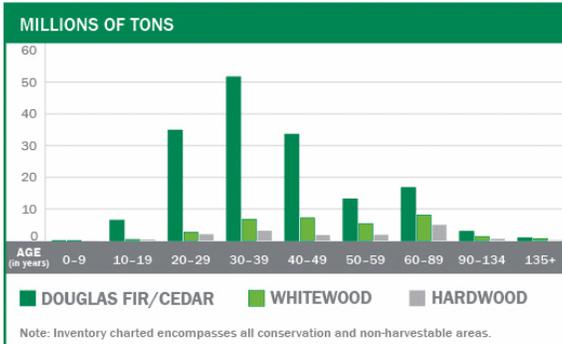
Our management systems and supply chain expertise provide us a competitive operating advantage in a number of areas including forestry and research, harvesting, marketing, and logistics. Additionally, our scale, diversity of timberlands ownership and infrastructure on the West Coast allow us to consistently and reliably supply logs to our internal and external customers year-round.

We sell recreational use permits covering approximately 2 million acres of our owned Western timberlands.

2018 Western U.S. Inventory by Species



2018 Western U.S. Inventory by Age / Species



The average age of timber harvested from our Western timberlands in 2018 was 51 years. In accordance with our sustainable forestry practices, we harvest approximately 2 percent of our Western acreage each year.

Southern United States

Our Southern timberland ownership, covering 11 states, is well situated to serve domestic wood products and pulp markets, including third-party customers and our own mills. For the year ended December 31, 2018, we sold 24 percent of our total southern log sales volume internally. Additionally, our Atlantic and Gulf coastal locations position us to serve a developing Asian log export market. Our holdings are comprised of 76 percent Southern yellow pine and 24 percent hardwoods.

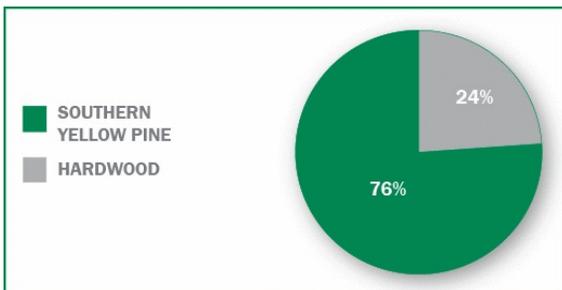
We intensively manage our Southern timber plantations using:

- forestry research and planning systems to optimize log production,
- customized silviculture prescriptions which increase productivity across our acreage and
- innovative planting and harvesting techniques on varying Southern terrain.

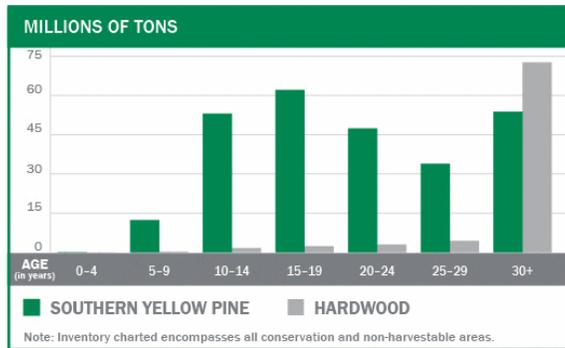
Operationally, we focus on efficiently harvesting and hauling logs from our ownership and capitalizing on our scale and supply chain expertise to consistently and reliably serve a broad range of customers through seasonal and weather-related events year-round.

We lease more than 94 percent of our owned Southern acreage for recreational purposes.

2018 Southern U.S. Inventory by Species



2018 Southern U.S. Inventory by Age / Species



The average age of timber harvested from our Southern timberlands in 2018 was 31 years. In accordance with our sustainable forestry practices, we harvest approximately 3 percent of our acreage each year in the South.

Northern United States

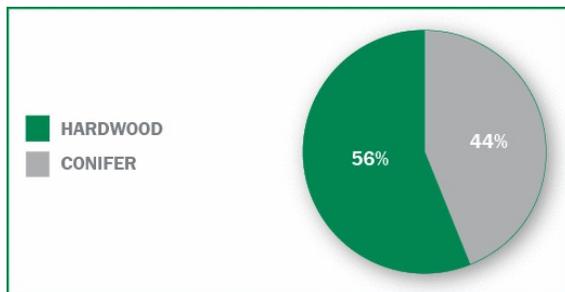
We are one of the largest private owners of northern hardwood timberlands. Our Northern acres contain a diverse mix of temperate broadleaf hardwoods and mixed conifer species across timberlands located in seven states. We grow over 50 species and market over 600 product grades to a diverse mix of customers.

Our large-diameter cherry, red oak and hard maple saw logs and veneer logs serve domestic and export furniture markets. Our maple and other appearance woods are used in furniture and high-value decorative applications. In addition to high value hardwood saw logs, our mix includes hardwood fiber logs for pulp and OSB applications. Hardwood pulpwood is a significant market in the Northern region and we have long term supply agreements, primarily at market rates, for nearly 83 percent of our hardwood pulp production.

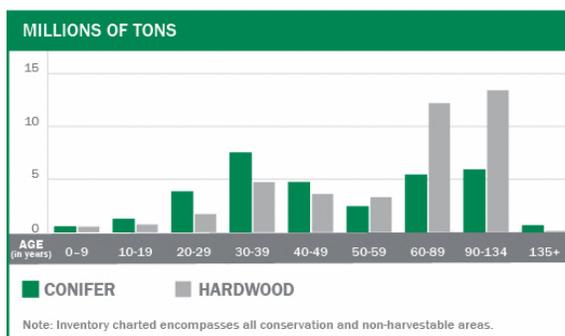
We also grow softwood logs that supply our Montana medium density fiberboard (MDF), lumber and plywood mills and other customers. Our competitive advantages include a merchandising program to capture the value of the premium hardwood logs.

Regeneration is predominantly natural, augmented by planting where appropriate.

2018 Northern U.S. Inventory by Species



2018 Northern U.S. Inventory by Age / Species



The average age of timber harvested from our Northern timberlands in 2018 was 62 years. Timber harvested in the North is sold predominantly as delivered logs to domestic mills, including our manufacturing facilities located in Montana and West Virginia. For the year ended

December 31, 2018, we sold 13 percent of our total northern log sales volume internally. In accordance with our sustainable forestry practices, we harvest approximately 1 percent of our acreage each year in the North.

Canada — Licensed Timberlands

We manage timberlands in Canada under long-term licenses from the provincial governments to secure volume for our manufacturing facilities in various provinces. The provincial governments regulate the volume of timber that may be harvested each year through Annual Allowable Cuts (AAC), which are updated every 10 years. As of December 31, 2018, our AAC by province was:

- Alberta — 2,914 thousand tons,
- British Columbia — 547 thousand tons,
- Ontario — 154 thousand tons and
- Saskatchewan — 634 thousand tons.

When the volume is harvested, we pay the province for that volume at stumpage rates set by the government. The harvested logs are transferred to our manufacturing facilities at cost (stumpage plus harvest, haul and overhead costs less any margin on selling logs to third parties). Any profit from harvesting the log through to converting to finished products is recognized at the respective mill in our Wood Products segment.

A small amount of harvested volumes are sold to unaffiliated customers.

GEOGRAPHIC AREA	THOUSANDS OF ACRES AT DECEMBER 31, 2018
TOTAL ACRES UNDER LICENSE ARRANGEMENTS	
Province:	
Alberta	5,398
British Columbia	1,014
Ontario ⁽¹⁾	2,574
Saskatchewan ⁽¹⁾	4,987
Total Canada	13,973
(1) License is managed by partnership.	

HOW MUCH WE HARVEST

Our fee harvest volumes are managed sustainably across all regions to ensure the preservation of long-term economic value of the timber and to capture maximum value from the markets. This is accomplished by ensuring annual harvest schedules target financially mature timber and reforestation activities align with the growing of timber through its life cycle to financial maturity.

Five-Year Summary of Timberlands Fee Harvest Volumes

FEE HARVEST VOLUMES IN THOUSANDS OF TONS ⁽¹⁾					
	2018	2017	2016	2015	2014
Fee harvest volume – tons:					
West	9,571	10,083	11,083	10,563	10,580
South	26,708	27,149	26,343	14,113	14,276
North	2,129	2,205	2,044	—	—
Uruguay ⁽²⁾	—	822	1,119	980	1,091
Other ⁽³⁾	—	1,384	701	—	—
Total	38,408	41,643	41,290	25,656	25,947

- (1) In February 2016, we merged with Plum Creek Timber Company, Inc. (Plum Creek). Refer to [Note 5: Merger With Plum Creek](#) in the [Notes to Consolidated Financial Statements](#) for further information on this merger.
- (2) Our Uruguayan operations were divested on September 1, 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further information on this divestiture.
- (3) Other includes volumes managed for the Twin Creeks Venture. Our management agreement for the Twin Creeks Venture began in April 2016 and terminated in December 2017. For additional information see [Note 9: Related Parties](#) in [Notes to Consolidated Financial Statements](#).

Five-Year Summary of Timberlands Fee Harvest Volumes - Percentage of Grade and Fiber

PERCENTAGE OF GRADE AND FIBER ⁽¹⁾		2018	2017	2016	2015	2014
West	Grade	90%	89%	87%	87%	89%
	Fiber	10%	11%	13%	13%	11%
South	Grade	51%	52%	52%	59%	59%
	Fiber	49%	48%	48%	41%	41%
North	Grade	46%	49%	47%	—%	—%
	Fiber	54%	51%	53%	—%	—%
Uruguay ⁽²⁾	Grade	—%	69%	66%	65%	63%
	Fiber	—%	31%	34%	35%	37%
Other ⁽³⁾	Grade	—%	47%	45%	—%	—%
	Fiber	—%	53%	55%	—%	—%
Total	Grade	62%	63%	64%	73%	73%
	Fiber	38%	37%	36%	27%	27%

(1) In February 2016, we merged with Plum Creek. Refer to [Note 5: Merger With Plum Creek](#) in the [Notes to Consolidated Financial Statements](#) for further information on this merger.

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HOW MUCH WE SELL

Our net sales to unaffiliated customers over the last two years were:

- \$1.9 billion in 2018 and
- \$1.9 billion in 2017.

Our intersegment sales over the last two years were:

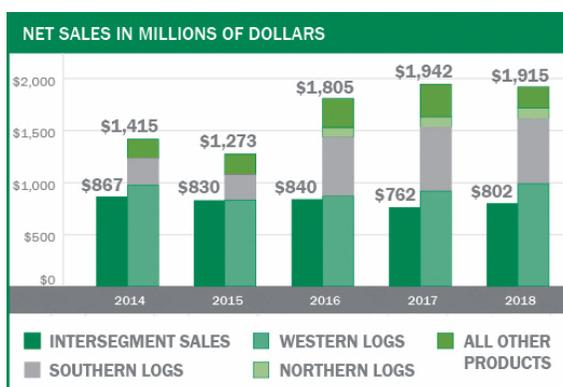
- \$802 million in 2018 and
- \$762 million in 2017.

Five-Year Summary of Net Sales for Timberlands

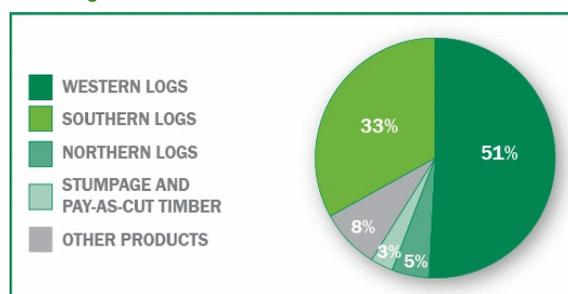
NET SALES IN MILLIONS OF DOLLARS ⁽¹⁾					
	2018	2017	2016	2015	2014
To unaffiliated customers:					
Delivered Logs:					
West	\$ 987	\$ 915	\$ 865	\$ 830	\$ 972
South	625	616	566	241	257
North	99	95	91	—	—
Other ⁽²⁾	41	59	38	24	22
Total	1,752	1,685	1,560	1,095	1,251
Stumpage and pay-as-cut timber	59	73	85	37	18
Uruguay operations ⁽³⁾	—	63	79	87	88
Recreational lease revenue	59	59	44	25	22
Other products ⁽⁴⁾	45	62	37	29	36
Subtotal sales to unaffiliated customers	1,915	1,942	1,805	1,273	1,415
Intersegment sales:					
United States	537	520	590	559	576
Canada	265	242	250	271	291
Subtotal intersegment sales	802	762	840	830	867
Total	\$ 2,717	\$ 2,704	\$ 2,645	\$ 2,103	\$ 2,282

- (1) In February 2016, we merged with Plum Creek. Refer to [Note 5: Merger With Plum Creek](#) in the [Notes to Consolidated Financial Statements](#) for further information on this merger.
- (2) Other delivered logs include sales to unaffiliated customers in Canada and sales from timberlands managed for the Twin Creeks Venture. Our management agreement for the Twin Creeks Venture began in April 2016 and terminated in December 2017. For additional information see [Note 9: Related Parties](#) in [Notes to Consolidated Financial Statements](#).
- (3) Sales from our Uruguay operations include plywood and hardwood lumber. Our Uruguayan operations were divested on September 1, 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further information on this divestiture.
- (4) Other products include sales of seeds and seedlings from our nursery operations, chips and sales from our operations in Brazil (operations sold in 2014).

Five-Year Trend for Total Net Sales in Timberlands



Percentage of 2018 Sales Dollars to Unaffiliated Customers



Log Sales Volume

Our sales volume includes fee timber, as well as logs purchased in the open market. Domestic and export logs are sold at market prices to both unaffiliated customers and our internal mills.

Our log sales volumes to unaffiliated customers over the last two years were:

- 28,250 thousand tons in 2018 and
- 29,420 thousand tons in 2017.

We sell three grades of logs — domestic grade, domestic fiber and export. Factors that may affect log sales in each of these categories include:

- domestic grade log sales — lumber usage, primarily for housing starts and repair and remodel activity, the needs of our own mills and the availability of logs from both outside markets and our own timberlands;
- domestic fiber log sales — demand for chips by pulp, containerboard mills, pellet mills and OSB mills; and
- export log sales — the level of housing starts in Japan and construction in China.

Five-Year Summary of Log Sales Volume to Unaffiliated Customers

SALES VOLUME IN THOUSANDS ⁽¹⁾					
	2018	2017	2016	2015	2014
Logs – tons:					
West	7,858	8,202	8,713	8,212	8,504
South	18,008	17,895	15,967	6,480	6,941
North	1,628	1,574	1,500	—	—
Uruguay ⁽²⁾	—	291	470	714	667
Other ⁽³⁾	756	1,458	943	551	474
Total	28,250	29,420	27,593	15,957	16,586

(1) In February 2016, we merged with Plum Creek. Refer to [Note 5: Merger With Plum Creek](#) in the [Notes to Consolidated Financial Statements](#) for further information on this merger.

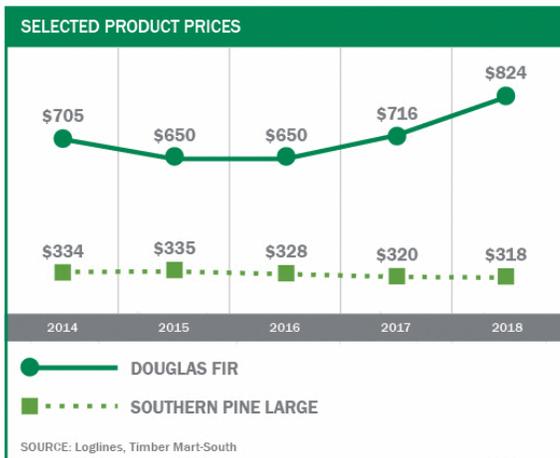
(2) Our Uruguayan operations were divested on September 1, 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further information on this divestiture.

(3) Other includes our Canadian operations and managed Twin Creeks Venture. Our management agreement for the Twin Creeks Venture began in April 2016 and terminated in December 2017. For additional information see [Note 9: Related Parties](#) in [Notes to Consolidated Financial Statements](#).

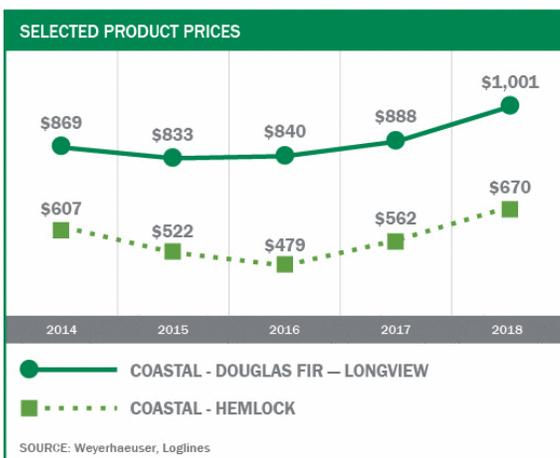
Log Prices

The majority of our log sales to unaffiliated customers involve sales to domestic sawmills and the export market. Log prices in the following tables are on a delivered (mill) basis.

Five-Year Summary of Published Domestic Log Prices (#2 Sawlog Bark On — \$/MBF)



Five-Year Summary of Export Log Prices (#2 Sawlog Bark On — \$/MBF)



Log prices are affected by the supply of and demand for grade and fiber logs. Export log prices are particularly affected by the Japanese housing market and Chinese demand.

WHERE WE'RE HEADED

Our competitive strategies include:

- continuing to capitalize on our scale of operations, silviculture and supply chain expertise and sustainability practices;
- improving cash flow through operational excellence initiatives including merchandising for value, harvest and transportation efficiencies as well as focused silviculture investments to improve forest productivity;
- leveraging our export and domestic market access, infrastructure and strong customer relationships;
- increasing our recreational lease revenue; and
- continuing to maximize the value of our timberlands portfolio by managing the acres with the highest and best use in mind.

REAL ESTATE, ENERGY AND NATURAL RESOURCES

Our Real Estate & ENR segment maximizes the value of our timberland ownership through application of our asset value optimization (AVO) process and captures the full value of surface and subsurface assets, such as oil, natural gas, minerals and wind and solar resources.

WHAT WE DO

Real Estate

Properties that exhibit higher use value than as commercial timberlands are monetized by our Real Estate business over time. We analyze our existing U.S. timberland holdings using a process we call AVO. We start with understanding the value of a parcel operating as commercial timberlands and then assess the specific real estate attributes of the parcel and its corresponding market. The assessment includes demographics, infrastructure and proximity to amenities and recreation to determine the potential to realize a premium value to commercial timberland. Attributes can evolve over time, and accordingly, the assignment of value and opportunity can change. We continually revisit our AVO assessment of all of our timberland acres.

These properties are acres we expect to sell for recreational, conservation, commercial or residential purposes over time. We will entitle a small amount of acres to support development. Development, outside of entitlement activities, is typically performed by third parties. Some of our real estate activities are conducted through our taxable REIT subsidiary.

Occasionally, we sell a small amount of timberlands acreage in areas where we choose to reduce our market presence, and we can capture a price that exceeds the value derivable from holding and operating as commercial timberlands. These transactions will vary based on factors including the locations and physical characteristics of the timberlands.

The timing of real estate sales is a function of many factors, including the general state of the economy, demand in local real estate markets, the ability of buyers to obtain financing, the number of competing properties listed for sale, the seasonal nature of sales (particularly in the Northern states), the plans of adjacent landowners, our expectation of future price appreciation, the timing of the harvesting activities, and the availability of government and not-for-profit funding. In any period, the average sales price per acre will vary based on the location and physical characteristics of parcels sold.

Energy and Natural Resources

We focus on maximizing potential opportunities for oil, natural gas, construction materials, industrial minerals, coal, renewable energy and rights of way easements on our timberlands portfolio and retained mineral interests.

As the owner of mineral rights and interests, we typically do not invest in development or operations but instead enter into contracts with operators granting them the rights to explore and sell energy and natural resources produced from our property in exchange for rents and royalties. Our primary sources of revenue are:

- rentals and royalties from the exploration, extraction, production and sale of aggregates and industrial minerals, oil and natural gas, coal and wind energy production;
- rental payments from, or sale of, communication, energy and transportation rights of way; and
- the occasional sale of mineral assets.

We generally reserve mineral rights when selling timberlands acreage. Some Energy and Natural Resources activities are conducted through our taxable REIT subsidiary.

Real Estate, Energy and Natural Resources Sources of Revenue

SOURCES	ACTIVITIES
Real Estate	Select timberland tracts are sold for recreational, conservation, commercial or residential purposes.
Energy and Natural Resources	<ul style="list-style-type: none"> • Rights are sold to explore and extract construction aggregates (rock, sand and gravel), coal, industrial materials and oil and natural gas for sale into energy markets. • Ground leases and easements are granted to wind and solar developers to generate renewable electricity from our timberlands. • Rights are granted to access and utilize timberland acreage for communications, pipeline, powerline and transportation rights of way.

WHERE WE DO IT

Our Real Estate business identifies opportunities to realize premium value for our U.S. owned timberland acreage.

Our significant Energy and Natural Resources revenue sources are located in Oregon, South Carolina and Georgia (construction material royalties); the Gulf South (oil and natural gas royalties); and West Virginia (coal reserves).

HOW MUCH WE SELL

Our net sales to unaffiliated buyers over the last two years were:

- \$306 million in 2018 and
- \$280 million in 2017.

Five-Year Summary of Net Sales for Real Estate, Energy and Natural Resources

NET SALES IN MILLIONS OF DOLLARS					
	2018	2017	2016	2015	2014
Net Sales:					
Real Estate	\$ 229	\$ 208	\$ 172	\$ 75	\$ 72
Energy and Natural Resources	78	73	54	26	32
Total	\$ 307	\$ 281	\$ 226	\$ 101	\$ 104

Five-Year Summary of Real Estate Sales Statistics

REAL ESTATE SALES STATISTICS					
	2018	2017	2016	2015	2014
Acres sold	131,575	97,235	82,687	27,390	24,583
Average price per acre	\$ 1,701	\$ 2,079	\$ 2,072	\$ 2,490	\$ 2,428

WHERE WE'RE HEADED

Our competitive strategies include:

- continuing to apply the AVO process to identify opportunities to capture a premium to timber value;
- maintaining a flexible, low-cost execution model by continuing to leverage strategic relationships with outside real estate brokers;
- capturing the full value of our oil and natural gas, aggregates and industrial minerals, and wind renewable energy resources; and
- delivering the most value from every acre.

WOOD PRODUCTS

We are a large manufacturer and distributor of wood products in North America.

WHAT WE DO

Our wood products segment:

- provides high-quality structural lumber, oriented strand board (OSB), engineered wood products and other specialty products to the residential, multi-family, industrial, light commercial and repair and remodel markets;
- distributes our products as well as complementary building products that we purchase from other manufacturers; and
- exports our structural lumber and engineered wood products, primarily to Asia.

Wood Products

PRODUCTS	HOW THEY'RE USED
Structural lumber	Structural framing for new residential, repair and remodel, treated applications, industrial and commercial structures
Oriented strand board	Structural sheathing, subflooring and stair tread for residential, multi-family and commercial structures
Engineered wood products <ul style="list-style-type: none"> • Solid section • I-joists • Softwood plywood • Medium density fiberboard 	Structural elements for residential, multi-family and commercial structures such as floor and roof joists, headers, beams, subflooring, and sheathing. Medium density fiberboard products are used for store fixtures, molding, doors, and cabinet components.
Other products	Wood chips and other byproducts
Complementary building products	Complementary building products such as cedar, decking, siding, insulation and rebar sold in our distribution facilities

WHERE WE DO IT

We operate manufacturing facilities in the United States and Canada. We distribute through a combination of Weyerhaeuser distribution centers and third-party distributors. Information about the locations, capacities and actual production of our manufacturing facilities is included below.

Summary of Wood Products Capacities and Principal Manufacturing Locations as of December 31, 2018

CAPACITIES IN MILLIONS				
	PRODUCTION CAPACITY	NUMBER OF FACILITIES	FACILITY LOCATION	
Structural lumber – board feet	5,025	19	Alabama, Arkansas, Louisiana (2), Mississippi (3), Montana, North Carolina (3), Oklahoma, Oregon (2), Washington (2), Alberta (2), British Columbia	
Oriented strand board – square feet (3/8")	3,035	6	Louisiana, Michigan, North Carolina, West Virginia, Alberta, Saskatchewan	
Engineered solid section – cubic feet ⁽¹⁾	43	6	Alabama, Louisiana, Oregon, West Virginia, British Columbia, Ontario	
Softwood plywood – square feet (3/8")	610	3	Arkansas, Louisiana, Montana	
Medium density fiberboard – square feet (3/4")	265	1	Montana	
(1) This represents total press capacity. Three facilities also produce I-Joist to meet market demand. In 2018, approximately 25 percent of the total press production was converted into 191 lineal feet of I-Joist.				

Production capacities listed represent annual production volume under normal operating conditions and producing a normal product mix for each individual facility.

We also own or lease 18 distribution centers in the U.S. where our products and complementary building products are sold.

Five-Year Summary of Wood Products Production

PRODUCTION IN MILLIONS					
	2018	2017	2016	2015	2014
Structural lumber – board feet	4,541	4,509	4,516	4,252	4,152
Oriented strand board – square feet (3/8")	2,837	2,995	2,910	2,847	2,749
Engineered solid section – cubic feet ⁽¹⁾	24.3	25.1	22.8	20.9	20.4
Engineered I-joists – lineal feet ⁽¹⁾	191	213	184	185	182
Softwood plywood – square feet (3/8") ⁽²⁾	404	370	396	248	252
Medium density fiberboard – square feet (3/4")	220	232	209	—	—
(1) Weyerhaeuser engineered solid section facilities also may produce engineered I-joists.					
(2) All Weyerhaeuser plywood facilities also produce veneer.					

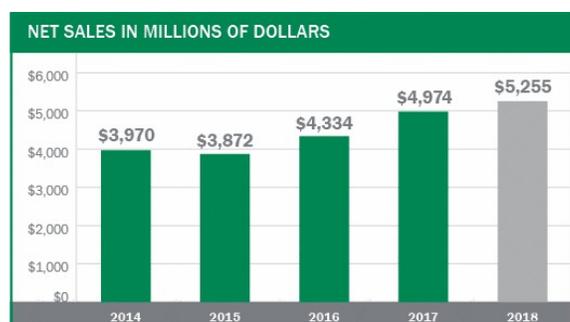
HOW MUCH WE SELL

Revenues of our Wood Products segment come from sales to wood products dealers, do-it-yourself retailers, builders and industrial users. Wood Products net sales were \$5.3 billion in 2018 and \$5.0 billion in 2017.

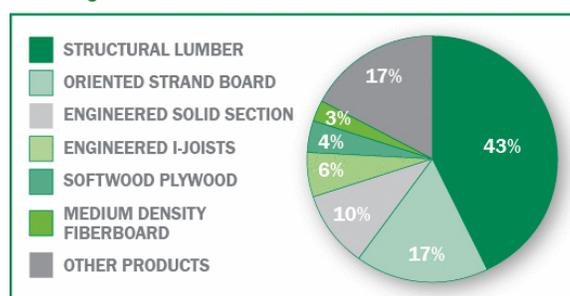
Five-Year Summary of Net Sales for Wood Products

NET SALES IN MILLIONS OF DOLLARS					
	2018	2017	2016	2015	2014
Structural lumber	\$ 2,258	\$ 2,058	\$ 1,839	\$ 1,741	\$ 1,901
Oriented strand board	891	904	707	595	610
Engineered solid section	521	500	450	428	402
Engineered I-joists	336	336	290	284	277
Softwood plywood	200	176	174	129	143
Medium density fiberboard	177	183	158	—	—
Other products produced ⁽¹⁾	288	276	201	189	176
Complementary building products	584	541	515	506	461
Total	\$ 5,255	\$ 4,974	\$ 4,334	\$ 3,872	\$ 3,970
(1) Includes wood chips and other byproducts.					

Five-Year Trend for Total Net Sales in Wood Products



Percentage of 2018 Net Sales Dollars in Wood Products



Wood Products Volume

Five-Year Summary of Sales Volume for Wood Products

SALES VOLUME ⁽¹⁾ IN MILLIONS					
	2018	2017	2016	2015	2014
Structural lumber – board feet	4,684	4,658	4,723	4,588	4,463
Oriented strand board – square feet (3/8")	2,827	2,971	2,934	2,972	2,788
Engineered solid section – cubic feet	24.3	25.1	23.3	21.3	20.0
Engineered I-joists – lineal feet	204	220	195	188	184
Softwood Plywood – square feet (3/8")	459	453	481	381	395
Medium density fiberboard – square feet (3/4")	212	222	206	—	—

(1) Sales volume includes sales of internally produced products and complementary building products sold primarily through our distribution centers.

Wood Products Prices

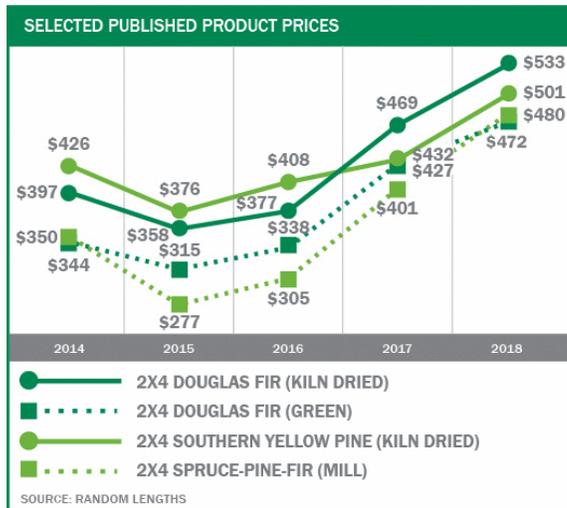
Prices for commodity wood products — Structural lumber, OSB and Plywood — increased in 2018 from 2017.

In general, the following factors influence sales realizations for wood products:

- Demand for wood products used in residential and multi-family construction and the repair and remodel of existing homes affects prices. Residential and multi-family construction is influenced by factors such as population growth and other demographics, availability of labor and lots, the level of employment, consumer confidence, consumer income, availability of financing and interest rate levels, and the supply and pricing of existing homes on the market. Repair and remodel activity is affected by the size and age of existing housing inventory and access to home equity financing and other credit.
- The supply of commodity building products such as structural lumber, OSB and plywood affects prices. A number of factors can influence supply, including changes in production capacity and utilization rates, weather, raw material supply and availability of transportation.

Demand for wood products continued to improve in 2018. The following graphs reflect product price trends for the past five years.

Five-Year Summary of Published Lumber Prices — \$/MBF



Five-Year Summary of Published Oriented Strand Board Price — \$/MSF



WHERE WE'RE HEADED

Our competitive strategies include:

- Achieve industry leading controllable manufacturing costs through operational excellence and disciplined capital execution;
- strong alignment with fiber supply;
- leverage our brand and reputation as the preferred provider of quality building products; and
- pursue disciplined, profitable sales growth in target markets.

EXECUTIVE OFFICERS OF THE REGISTRANT

Adrian M. Blocker, 62, has been senior vice president, Timberlands, since January 2019. Previously, he served as senior vice president, Wood Products, from January 2015 to January 2019. He joined the company in May 2013 as vice president, Lumber. Prior to joining the company, he served as CEO of the Wood Products Council. He has held numerous leadership positions in the industry focused on forest management, fiber procurement, consumer packaging, strategic planning, business development and manufacturing, including at West Fraser, International Paper and Champion International.

Russell S. Hagen, 53, has been senior vice president and chief financial officer since February 2016. Previously, he served as senior vice president, Business Development, at Plum Creek from December 2011 to February 2016. Prior to this he was vice president, Real Estate Development, overseeing the development activities of the company's real estate, oil and gas, construction materials and bioenergy businesses. Mr. Hagen began his career in 1988 with Coopers and Lybrand, where he was a certified public accountant and led the audits of public clients in technology, banking and natural resource industries. He joined Plum Creek in 1993 as Manager of Internal Audit and held director-level positions in accounting, financial operations, risk management and information technology.

Kristy T. Harlan, 45, has been senior vice president, general counsel and corporate secretary since January 2017. She leads the company's Law department, with responsibility for global legal, compliance, enterprise risk management, procurement and land title functions. Before joining the company, she was a partner at K&L Gates LLP since 2007. Previously, she worked as an attorney at Preston Gates & Ellis LLP and Akin Gump Strauss Hauer & Feld LLP.

James A. Kilberg, 62, has been senior vice president, Real Estate, Energy and Natural Resources, since April 2016. In this position, he oversees the company's real estate development, land asset management, conservation, mitigation banking, recreational lease management, oil and gas, construction materials, heavy minerals, wind and solar. Prior to joining the company, he served as Plum Creek's senior vice president, Real Estate, Energy and Natural Resources, from 2006 until February 2016, and as Plum Creek's vice president, Land Management, from 2001 until 2006. Prior to joining Plum Creek, Mr. Kilberg held several executive positions in real estate, asset management and development. He currently serves on the board of the Georgia Chamber of Commerce and the Alliance Theater, as well as the Corporate Council of the Land Trust Alliance.

Denise M. Merle, 55, has been senior vice president and chief administration officer, since February 2018. Previously, she served as senior vice president, Human Resources and Information Technology, from February 2016 to February 2018 and senior vice president, Human Resources and Investor Relations, from February 2014 to February 2016. She was director, Finance and Human Resources, for the Lumber business from 2013 to 2016. Prior to that, she was director, Compliance & Enterprise Planning, from 2009 to 2013, and director, Internal Audit, from 2004 to 2009. She has also held various roles in the company's paper and packaging businesses, including finance, capital planning and analysis, and business development. She is a licensed CPA in the state of Washington. She serves on the Board of Advisors of the Seattle University business school.

Keith J. O'Rear, 56, has been senior vice president, Wood Products, since January 2019. Previously, he was vice president of Wood Products sales and marketing from 2017 to 2018 and vice president of Wood Products Manufacturing for the company's Mid-South region from 2014 to 2017. Mr. O'Rear led the company's Timberlands operations in Oklahoma and Arkansas from 2013-2014, and prior to that he held various manufacturing leadership roles at the company's lumber mills in Dierks, Arkansas, and Idabel, Oklahoma. He also led a variety of initiatives for the company in the areas of safety, reliability, strategic planning and large capital projects. Mr. O'Rear joined Weyerhaeuser in 1989.

Devin W. Stockfish, 45, has been president and chief executive officer and a member of the company's board of directors since January 2019. Previously, he served as senior vice president, Timberlands, from January 2018 to December 2018 and as vice president, Western timberlands, from January 2017 to December 2017. He also served as senior vice president, general counsel and corporate secretary, from July 2014 to December 2016 and as assistant general counsel from March 2013 to July 2014. Before joining the company in March 2013, he was vice president and associate general counsel at Univar Inc. where he focused on mergers and acquisitions, corporate governance and securities law. Previously, he was an attorney in the law department at Starbucks Corporation and practiced corporate law at K&L Gates LLP. Before he began practicing law, Mr. Stockfish was an engineer with the Boeing Company.

NATURAL RESOURCE AND ENVIRONMENTAL MATTERS

We are subject to a multitude of laws and regulations in the operation of our businesses. We also participate in voluntary certification of our timberlands to ensure that we sustain their overall quality, including the protection of wildlife and water quality. Changes in law and regulation, or certification standards, can significantly affect our business.

REGULATIONS AFFECTING FORESTRY PRACTICES

In the United States, regulations established by federal, state and local government agencies to protect water quality, wetlands and other wildlife habitat could affect future harvests and forest management practices on our timberlands. Forest practice laws and regulations that affect present or future harvest and forest management activities in certain states include:

- limits on the size of clearcuts,
- requirements that some timber be left unharvested to protect water quality and fish and wildlife habitat,
- regulations regarding construction and maintenance of forest roads,
- rules requiring reforestation following timber harvest and
- various related permit programs.

Each state in which we own timberlands has developed best management practices to reduce the effects of forest practices on water quality and aquatic habitats. Additional and more stringent regulations may be adopted by various state and local governments to achieve water-quality standards under the federal Clean Water Act, protect fish and wildlife habitats, human health, or achieve other public policy objectives.

In Canada, our forest operations are carried out on public timberlands under forest licenses with the provinces. All forest operations in Canada are subject to:

- forest practices and environmental regulations and
- license requirements established by contract between us and the relevant province designed to:
 - protect environmental values and
 - encourage other stewardship values.

In Canada, 21 member companies of the Forest Products Association of Canada (FPAC), including Weyerhaeuser's Canadian subsidiary, announced in May 2010 the signing of a Canadian Boreal Forest Agreement (CBFA) with nine environmental organizations. The CBFA applies to approximately 72 million hectares of public forests licensed to FPAC members and, when fully implemented, was expected to lead to the conservation of significant areas of Canada's boreal forest and protection of boreal species at risk, in particular, woodland caribou. While the CBFA mandate came to an end in 2017, CBFA signatories continue to work on management plans with provincial governments, and seek the participation of aboriginal and local communities in advancing the goals of the CBFA.

ENDANGERED SPECIES PROTECTIONS

In the United States, a number of fish and wildlife species that inhabit geographic areas near or within our timberlands have been listed as threatened or endangered under the federal Endangered Species Act (ESA) or similar state laws, including but not limited to:

- the northern spotted owl, the marbled murrelet, a number of salmon species, bull trout and steelhead trout in the Pacific Northwest;
- several freshwater mussel and sturgeon species; and
- the red-cockaded woodpecker, gopher tortoise, dusky gopher frog, American burying beetle and Northern long-eared bat in the South or Southeast.

Additional species or populations may be listed as threatened or endangered as a result of pending or future citizen petitions or petitions initiated by federal or state agencies. In addition, significant citizen litigation seeks to compel the federal agencies to designate "critical habitat" for ESA-listed species, and many cases have resulted in settlements under which designations will be implemented over time. Such designations may adversely affect some management activities and options. Restrictions on timber harvests can result from:

- federal and state requirements to protect habitat for threatened and endangered species;
- regulatory actions by federal or state agencies to protect these species and their habitat; and
- citizen suits under the ESA.

Such actions could increase our operating costs and affect timber supply and prices in general. To date, we do not believe that these measures have had, and we do not believe that in 2019 they will have, a significant effect on our harvesting operations. We anticipate that likely future actions will not disproportionately affect Weyerhaeuser as compared with comparable operations of U.S. competitors.

In Canada:

- The federal Species at Risk Act (SARA) requires protective measures for species identified as being at risk and for their critical habitat. Pursuant to SARA, Environment Canada continues to identify and assess species deemed to be at risk and their critical habitat.
- In October 2012, the Canadian Minister of the Environment released a strategy for the recovery of the boreal population of woodland caribou under the SARA. The population and distribution objectives for boreal caribou across Canada are to (1) maintain the current status of existing, self-sustaining local caribou populations and (2) stabilize and achieve self-sustaining status for non-self-sustaining local caribou populations. Critical habitat for boreal caribou is identified for all boreal caribou ranges, except for northern Saskatchewan's Boreal Shield range (SK1) where additional information is required for that population. Species assessment and recovery plans are developed in consultation with aboriginal communities and stakeholders.
- In 2017, the Provinces were required to update the federal government on any progress associated with their draft caribou range plans. These draft plans will be further evaluated in 2019, and any additional information on potential effects to forest harvest operations will be released.

The identification and protection of habitat and the implementation of range plans and land use action plans may, over time, result in additional restrictions on timber harvests and other forest management practices that could increase operating costs for operators of timberlands in Canada. To date, we do not believe that these Canadian measures have had, and we do not believe that in 2019 they will have, a significant effect on our harvesting operations. We anticipate that likely future measures will not disproportionately affect Weyerhaeuser as compared with similar operations of Canadian competitors.

FOREST CERTIFICATION STANDARDS

We operate in North America under the Sustainable Forestry Initiative® (SFI). This is a certification standard designed to supplement government regulatory programs with voluntary landowner initiatives to further protect certain public resources and values. SFI is an independent standard, overseen by a governing board consisting of:

- conservation organizations,
- academia,
- the forest industry and
- large and small forest landowners.

Ongoing compliance with SFI may result in some increases in our operating costs and reduction of our timber harvests in some areas. There is also competition from other private certification systems, primarily the Forest Stewardship Council (FSC), coupled with efforts by supporters to further those systems by persuading customers of forest products to require products certified to their preferred system. Certain features of the FSC system could impose additional operating costs on timberland management. Because of the considerable variation in FSC standards, and variability in how those standards are interpreted and applied, if sufficient marketplace demand develops for products made from raw materials sourced from other than SFI-certified forests, we could incur substantial additional costs for operations and be required to reduce harvest levels.

WHAT THESE REGULATIONS AND CERTIFICATION PROGRAMS MEAN TO US

The regulatory and non-regulatory forest management programs described above have:

- increased our operating costs;
- resulted in changes in the value of timber and logs from our timberlands;
- contributed to increases in the prices paid for wood products and wood chips during periods of high demand;
- sometimes made it more difficult for us to respond to rapid changes in markets, extreme weather or other unexpected circumstances; and
- potentially encouraged further reductions in the use of, or substitution of other products for, lumber, oriented strand board, engineered wood products and plywood.

We believe that these regulations and programs have not had, and in 2019 will not have, a significant effect on our total harvest of timber in the United States or Canada. However, these kinds of programs may have such an effect in the future. We expect we will not be disproportionately affected by these programs as compared with typical owners of comparable timberlands. We also expect that these programs will not significantly disrupt our planned operations over large areas or for extended periods.

CANADIAN ABORIGINAL RIGHTS

Many of the Canadian timberlands are subject to the constitutionally protected treaty or common-law rights of aboriginal peoples of Canada. Most of British Columbia (B.C.) is not covered by treaties, and as a result the claims of B.C.'s aboriginal peoples relating to forest resources have been largely unresolved. On June 26, 2014 the Supreme Court of Canada ruled that the Tsilhqot'in Nation holds aboriginal title to approximately 1,900 square kilometers in B.C. This was the first time that the court has declared title to exist based on historical occupation by aboriginal peoples. Many aboriginal groups continue to be engaged in treaty discussions with the governments of B.C., other provinces and Canada.

Final or interim resolution of claims brought by aboriginal groups can be expected to result in:

- additional restrictions on the sale or harvest of timber,
- potential increase in operating costs and
- effect on timber supply and prices in Canada.

We believe that such claims will not have a significant effect on our total harvest of timber or production of forest products in 2019, although they may have such an effect in the future. In 2008, FPAC, of which we are a member, signed a Memorandum of Understanding with the Assembly of First Nations, under which the parties agree to work together to strengthen Canada's forest sector through economic-development initiatives and business investments, strong environmental stewardship and the creation of skill-development opportunities particularly targeted to aboriginal youth.

POLLUTION-CONTROL REGULATIONS

Our operations are subject to various laws and regulations, including federal, state, provincial and local pollution controls.

These laws and regulations, as well as market demands, impose controls with regard to:

- air, water and land;
- solid and hazardous waste management;
- waste disposal;
- remediation of contaminated sites; and
- the chemical content of some of our products.

Compliance with these laws, regulations and demands usually involves capital expenditures as well as additional operating costs. We cannot easily quantify the future amounts of capital expenditures we might have to make to comply with these laws, regulations and demands or the effects on our operating costs because in some instances compliance standards have not been developed or have not become final or definitive. In addition, it is difficult to isolate the environmental component of most manufacturing capital projects.

Our capital projects typically are designed to:

- enhance safety,
- extend the life of a facility,
- lower costs and improve efficiency,
- improve reliability,
- increase capacity,
- facilitate raw material changes and handling requirements,
- increase the economic value of assets or products, and
- comply with regulatory standards.

ENVIRONMENTAL CLEANUP

We are involved in the environmental investigation or remediation of numerous sites. Of these sites:

- we may have the sole obligation to remediate,
- we may share that obligation with one or more parties,
- several parties may have joint and several obligations to remediate and
- we may have been named as a potentially responsible party for contaminated sites, including those designated as U.S. Superfund sites.

Our liability with respect to these various sites ranges from insignificant to substantial. The amount of liability depends on the:

- quantity, toxicity and nature of materials at the site; and
- number and economic viability of the other responsible parties.

We spent approximately \$13 million in 2018 and expect to spend approximately \$6 million in 2019 on environmental remediation of these sites.

It is our policy to accrue for environmental-remediation costs when we:

- determine it is probable that such an obligation exists and
- can reasonably estimate the amount of the obligation.

We currently believe it is reasonably possible that our costs to remediate all the identified sites may exceed our current accruals of \$62 million. Based on currently available information and analysis, remediation costs for all identified sites may exceed our existing reserves by up to \$126 million. This estimate of the upper end of the range of reasonably possible additional costs is much less certain than the estimates we currently are using to determine how much to accrue. The estimate of the upper range also uses assumptions less favorable to us among the range of reasonably possible outcomes.

REGULATION OF AIR EMISSIONS IN THE U.S.

The United States Environmental Protection Agency (EPA) has promulgated regulations for air emissions from:

- wood products facilities and
- industrial boilers.

These regulations cover:

- hazardous air pollutants that require use of maximum achievable control technology (MACT); and
- controls and/or monitoring for pollutants that contribute to smog, haze and more recently, greenhouse gases.

Between 2011 and 2015, the EPA issued three related portions of new MACT standards for industrial boilers and process heaters. In July 2016, a court decision was issued that requires EPA to re-issue certain of the emissions standards. Some of these re-issued emissions standards will be applicable to a small number of our wood products mills. Because we do not know specifically how or when the EPA will implement the final court decision, we cannot predict whether or when the emission standard revisions may have a material effect on regulatory compliance costs at our mills. We do not expect any material expenditures in 2019 necessary to comply with MACT standards.

The EPA may still promulgate supplemental MACT standards for plywood, lumber and composite wood products facilities.

We cannot currently quantify the amount of capital we will need in the future to comply with new regulations being developed by the EPA because final rules have not been promulgated.

In 2010, the EPA issued a final greenhouse gas rule limiting the growth of emissions from new projects meeting certain thresholds. On June 23, 2014, the US Supreme Court issued a decision that removed potential applicability of the underlying 2010 regulations based solely on greenhouse gas emissions and limited application of the rule's technology requirements to larger emission sources as a result of new emissions from non-greenhouse gas pollutants. As a result of this Supreme Court ruling, EPA proposed a new regulation in 2016 to set thresholds for when the greenhouse gas technology requirements apply if the non-greenhouse gas emissions trigger the rule in the first instance. EPA to date has not finalized this regulation. The effect of the Supreme Court ruling is to end the potential applicability of the technology requirements for our smaller manufacturing operations and limit the applicability for our other operations.

In 2015, the EPA issued an extensive regulatory program for new and existing electric utility generating units to scale back emissions of greenhouse gas carbon dioxide (CO₂) arising from fossil fuel use to generate electricity. EPA also proposed additional, supplemental regulations related to how states and federal agencies may implement the requirements finalized in 2015. Subsequent actions include in 2016 a US Supreme Court stay of the 2015 rule pending resolution of lower court challenges to the rule, in 2017 the withdrawal by EPA of the proposed supplemental regulations and a proposal to rescind the 2015 final rule, and in 2018 an EPA proposal of a substantially different replacement rule. Depending on the final outcomes, this regulatory program potentially will have indirect effects on our operations, such as from rising purchased electricity prices or from mandated energy demand reductions that could apply to our mills and other facilities that we operate. We continue to track and evaluate the litigation and regulatory development but are not able to predict whether the regulations, when complete and implemented, will have a material effect on our operations.

We use significant biomass for energy production at our mills. EPA is currently working on rules regarding regulation of biomass emissions. The effect of these greenhouse gas and biomass rules, as well as recent court decisions, on our operations remains uncertain. To address concerns about greenhouse gases as a pollutant, we:

- closely monitor legislative, regulatory and scientific developments pertaining to climate change;
- adopted in 2006, as part of the company's sustainability program, a goal of reducing greenhouse gas emissions by 40 percent by 2020 compared with our emissions in 2000, assuming a comparable portfolio and regulations;
- determined to achieve this goal by increasing energy efficiency and using more greenhouse gas-neutral, biomass fuels instead of fossil fuels; and
- reduced greenhouse gas emissions by approximately 44 percent considering changes in the asset portfolio according to 2017 data, compared to our 2000 baseline.

Additional factors that could affect regulation of greenhouse gas emissions in the future include:

- policy proposals by federal or state governments regarding regulation of greenhouse gas emissions,
- Congressional legislation regulating or taxing greenhouse gas emissions within the next several years and
- establishment of a multistate or federal greenhouse gas emissions reduction trading system with potentially significant implications for all U.S. businesses.

We believe these developments have not had, and in 2019 will not have, a significant effect on our operations. Although these measures could have a material adverse effect on our operations in the future, we expect that we will not be disproportionately affected by these measures as compared with owners of comparable operations. We maintain an active forestry research program to track and understand any potential effect from actual climate change related parameters that could affect the forests we own and manage and do not anticipate any disruptions to our planned operations.

REGULATION OF AIR EMISSIONS IN CANADA

In addition to existing provincial air quality regulations, the Canadian federal government has proposed an air quality management system (AQMS) as a comprehensive national approach for improving air quality in Canada. The federal proposed AQMS includes:

- ambient air quality standards for outdoor air quality management across the country;
- a framework for air zone air management within provinces and territories that targets specific sources of air emissions;
- regional airsheds that facilitate coordinated action across borders;
- industrial sector based emission requirements that set a national base level of performance for major industries in Canada; and
- improved intergovernmental collaboration to reduce emissions from the transportation sector.

In 2016, Environment Canada released the Pan-Canadian Framework on Clean Growth and Climate Change, a "Greenhouse Gas Emission Framework." The framework put in place a national, sector-based greenhouse gas reduction program applicable to a number of industries, including ours.

All Canadian provincial governments:

- have greenhouse gas reporting requirements,
- are working on reduction strategies and
- together with the Canadian federal government, are considering new or revised emission standards.

In addition, British Columbia has adopted a carbon tax and Alberta has a mandatory greenhouse gas emission reduction regulation.

We believe these measures have not had, and in 2019 will not have, a significant effect on our operations. Although these measures could have a material adverse effect on our operations in the future, we expect that we will not be disproportionately affected by these measures as compared with owners of comparable operations. We also expect that these measures will not significantly disrupt our planned operations.

REGULATION OF WATER

In the U.S., as a result of litigation under the federal Clean Water Act, additional federal or state permits are now required in some states for the application of pesticides, including herbicides, on timberlands. Those permits have entailed payment of additional costs. In 2015, federal regulatory agencies adopted rules that potentially expand the definition of waters subject to federal Clean Water Act jurisdiction, which could increase the scope and number of permits required for forestry-related activities and entail additional costs for Weyerhaeuser and other forest landowners in the U.S. Those rules were challenged in various federal courts by numerous parties and states, and a nationwide injunction was issued against the rule by the Sixth Circuit Court of Appeals, but was dissolved in 2018 due to action by the U.S. Supreme Court. Other injunctions still block the rule in several states. In January 2018, federal agencies took regulatory action to further delay the 2015 rules from going into effect until February 2020; however, that action was enjoined in September 2018 by a South Carolina court. Challenges to the substance of the 2015 rule are being pursued in other pending cases challenging the 2015 rules. Meanwhile, the federal agencies have proposed repeal of the 2015 rules entirely and replacement of them with a new rule, which is now open for public comment. We are not able to predict the ultimate resolution of these pending legal and regulatory actions.

In 2016, Washington State Department of Ecology (WA DOE) adopted human health-based water quality criteria. The EPA subsequently promulgated its own water quality standards for Washington state for the protection of human health for certain pollutants. It is unclear what effect, if any, these rules will have on our manufacturing operations in Washington state.

In addition, in 2013, amendments to the Canadian Federal Fisheries Act came into force. These amendments changed the focus from habitat protection to fisheries protection and increased penalties. We expect further changes to these regulations subsequent to review and regulatory consultations that took place in 2016, but we cannot predict the scope or potential effect, if any, on our operations.

We believe the above developments have not had, and in 2019 will not have, a significant effect on our operations. Although these measures could have a material adverse effect on our operations in the future, we expect that we will not be disproportionately affected by these measures as compared with owners of comparable operations. We also expect that these measures will not significantly disrupt our planned operations.

POTENTIAL CHANGES IN POLLUTION REGULATION

State governments continue to promulgate total maximum daily load (TMDL) requirements for pollutants in water bodies that do not meet state or EPA water quality standards. State TMDL requirements may set:

- limits on pollutants that may be discharged to a body of water; or
- additional requirements, such as best management practices for nonpoint sources, including timberland operations, to reduce the amounts of pollutants.

It is not possible to estimate the capital expenditures that may be required for us to meet pollution allocations across the various proposed state TMDL programs until a specific TMDL is promulgated.

In Canada, various levels of government have been working to address water issues including use, quality and management. Recent areas of focus include water allocation, regional watershed protection, protection of drinking water, water pricing and a national water quality index.

FORWARD-LOOKING STATEMENTS

This report contains statements concerning our future results and performance that are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements often reference or describe our expected future financial and operating performance; our plans, strategies, intentions and expectations; our operational excellence and other strategic initiatives, including those pertaining to operating and other costs, product development and production; estimated taxes and tax rates; future debt payments; future restructuring charges; expected results of litigation and other legal proceedings and contingent liabilities, and the sufficiency of litigation and other contingent liability reserves; expected uses of cash, including future dividends and share repurchases; expected capital expenditures; expected economic conditions, including markets, pricing and demand for our products; laws and regulations relevant to our businesses; and our expectations relating to pension contributions, returns on invested plan assets and expected benefit payments.

Forward-looking statements can be identified by the fact that they do not relate strictly to historical or current facts. They often involve use of words such as expects, may, should, will, believes, anticipates, estimates, projects, intends, plans, targets or approximately, or similar words or terminology. They may use the positive, negative or another variation of those and similar words. These forward-looking statements are based on our current expectations and assumptions and are not guarantees of future events or performance. The realization of our expectations and the accuracy of our assumptions are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. The factors include those listed below and those described under [Risk Factors](#) and [Management's Discussion and Analysis of Financial Condition and Results of Operations](#) as well as other factors not described herein because they are not currently known to us or we currently judge them to be immaterial. There is no guarantee that any of the events anticipated by our forward-looking statements will occur. Or if any of the events occur, there is no guarantee what effect it will have on our operations, cash flows, or financial condition. We undertake no obligation to update our forward-looking statements after the date of this report.

RISKS, UNCERTAINTIES AND ASSUMPTIONS

Major risks and uncertainties, and assumptions that we make, that affect our business and may cause actual results to differ materially from the content of these forward-looking statements include, but are not limited to:

- the effect of general economic conditions, including employment rates, interest rate levels, housing starts, general availability of financing for home mortgages and the relative strength of the U.S. dollar;
- market demand for the company's products, including market demand for our timberland properties with higher and better uses, which is related to, among other factors, the strength of the various U.S. business segments and U.S. and international economic conditions;
- changes in currency exchange rates, particularly the relative value of the U.S. dollar to the Japanese yen, the Chinese yuan, and the Canadian dollar, and the relative value of the euro to the yen;
- restrictions on international trade and tariffs imposed on imports or exports;
- the availability and cost of shipping and transportation;
- economic activity in Asia, especially Japan and China;
- performance of our manufacturing operations, including maintenance and capital requirements;
- potential disruptions in our manufacturing operations;
- the level of competition from domestic and foreign producers;
- the successful execution of our internal plans and strategic initiatives, including restructuring and cost reduction initiatives;
- the successful and timely execution and integration of our strategic acquisitions, including our ability to realize expected benefits and synergies, and the successful and timely execution of our strategic divestitures, each of which is subject to a number of risks and conditions beyond our control including, but not limited to, timing and required regulatory approvals;
- raw material availability and prices;
- the effect of weather;
- changes in global or regional climate conditions and governmental response to such changes;
- the risk of loss from fires, floods, windstorms, hurricanes, pest infestation and other natural disasters;
- energy prices;
- transportation and labor availability and costs;
- federal tax policies;
- the effect of forestry, land use, environmental and other governmental regulations;
- legal proceedings;
- performance of pension fund investments and related derivatives;
- the effect of timing of employee retirements and changes in the market price of our common stock on charges for share-based compensation;
- the accuracy of our estimates of costs and expenses related to contingent liabilities;
- changes in accounting principles; and
- other factors described in this report under [Risk Factors](#) and [Management's Discussion and Analysis of Financial Condition and Results of Operations](#).

WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K 24

RISK FACTORS

We are subject to various risks and events that could adversely affect our business, our financial condition, our results of operations, our cash flows and the price of our common stock.

You should consider the following risk factors, in addition to the information presented elsewhere in this report, particularly in [Our Business - Who We Are](#), [Our Business - What We Do](#), [Our Business - Natural Resources and Environmental Matters](#), [Forward-Looking Statements](#) and [Management's Discussion and Analysis of Financial Condition and Results of Operations](#) as well as in the filings we make from time to time with the SEC, in evaluating us, our business and an investment in our securities.

The risks discussed below are not the only risks we face. Additional risks not currently known to us or that we currently deem immaterial also may adversely affect our business.

RISKS RELATED TO OUR INDUSTRY

MACROECONOMIC CONDITIONS

The industries in which we operate are sensitive to macroeconomic conditions and consequently are highly cyclical.

The overall levels of demand for the products we manufacture and distribute reflect fluctuations in levels of end-user demand, which consequently affect our sales and profitability. End-user demand depends in large part on general macroeconomic conditions, both in the U.S. and globally, as well as on local economic conditions. Current economic conditions in the United States reflect growth enhanced by tax cuts passed in 2018, the effect of which may be adversely affected by increases in interest rates and other factors in 2019. Global economic conditions reflect volatile and sporadic growth in emerging countries and uncertainty over international trade. The length and magnitude of industry cycles vary over time, both by market and by product, but generally reflect changes in macroeconomic conditions and levels of industry capacity. Any decline or stagnation in macroeconomic conditions could cause us to experience lower sales volume and reduced margins.

COMMODITY PRODUCTS

Many of our products are commodities that are widely available from other producers.

Because commodity products have few distinguishing properties from producer to producer, competition for these products is based primarily on price, which is determined by supply relative to demand and competition from substitute products. In addition, prices for our products are affected by many other factors outside of our control. As a result, we have little influence over the timing and extent of price changes, which often are volatile. Our profitability with respect to these products depends, in part, on managing our costs, particularly raw material, labor (including contract labor) and energy costs, which represent significant components of our operating costs and can fluctuate based upon factors beyond our control. Both sales and profitability of our products are subject to volatility due to market forces beyond our control.

INDUSTRY SUPPLY OF LOGS AND WOOD PRODUCTS

Excess supply of logs and wood products may adversely affect prices and margins.

Our industry may increase harvest levels, which could lead to an oversupply of logs. Wood products producers may likewise expand manufacturing capacity, which could lead to an oversupply of manufactured wood products. Any increase of industry supply to our markets could adversely affect our prices and margins.

HOMEBUILDING MARKET AND ECONOMIC RISKS

High unemployment, low demand and low levels of consumer confidence can adversely affect our business and results of operations.

Our business is dependent upon the health of the U.S. housing market. Demand for homes is sensitive to changes in economic conditions such as the level of employment, consumer confidence, consumer income, the availability of financing and interest rate levels. Other factors that could limit or adversely affect demand for new homes, and hence demand for our products, include factors such as limited wage growth, increases in non-mortgage consumer debt, any weakening in consumer confidence, and any increase in foreclosure rates and distress sales of houses.

Homebuyers' ability to qualify for and obtain affordable mortgages could be affected by changes in interest rates, changes in home loan underwriting standards and government sponsored entities and private mortgage insurance companies supporting the mortgage market.

Access to affordable mortgage financing is critical to the health of the U.S. housing market. Generally, increases in interest rates make it more difficult for home buyers to obtain mortgage financing, which could negatively affect demand for housing and, in turn, negatively affect demand for our wood products. After an extended period during which the U.S. Federal Reserve kept its benchmark interest rate at historically low levels, it began raising rates again in 2016 and continued through 2018. The number and extent of further rate increases is uncertain.

Credit requirements were severely tightened, and the number of mortgage loans available for financing home purchases were severely reduced, during the most recent recession and ensuing credit crisis. Although the availability of credit has improved modestly since that time, the demand for new homes could be limited or adversely affected if credit requirements were to again tighten or become more restrictive for any reason.

The liquidity provided to the mortgage industry by Fannie Mae and Freddie Mac, both of which purchase home mortgages and mortgage-backed securities originated by mortgage lenders, has been critical to the housing market. Any political or other developments that would have the effect of limiting or restricting the availability of financing by these government sponsored entities could also adversely affect interest rates and the availability of mortgage financing. Whether resulting from direct increases in borrowing rates, tightened underwriting standards on mortgage loans or reduced federal support of the mortgage lending industry, a challenging mortgage financing environment could reduce demand for housing and, therefore, adversely affect demand for our products.

WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K 25

Changes in regulations relating to tax deductions for mortgage interest expense and real estate taxes could harm our future sales and earnings.

Significant costs of homeownership include mortgage interest expense and real estate taxes, both of which are generally deductible for an individual's federal and, in some cases, state income taxes. Recent federal legislation reduced the amount of mortgage interest and real estate taxes that certain taxpayers may deduct. These and any similar changes to income tax laws by the federal government or by a state government to eliminate or substantially reduce these income tax deductions, or any significant increase in real property taxes by local governments, may increase the cost of homeownership and thus could adversely affect the demand for our products.

TRANSPORTATION

We depend on third parties for transportation services and any disruptions in the availability of transportation or increases in transportation costs could materially adversely affect our business and operations.

Our business depends heavily on the availability of third-party service providers for the transportation of our wood products and wood fiber; we are therefore materially affected by the availability and cost of these services. Any significant increase in the operating costs to our service providers, including without limitation the cost of fuel or labor, could have a material negative effect on our financial results by increasing the cost of these services to us, as well as result in an overall reduction in the availability of these services altogether.

Our third-party transportation providers are also subject to several events outside of their control, such as disruption of transportation infrastructure, labor issues and natural disasters. Any failure of a third-party transportation provider to timely deliver our products, including delivery of our wood products and wood fiber to our customers and delivery of wood fiber to our mills, could harm our supply chain, negatively affect our customer relationships and have a material adverse effect on our financial condition, results of operations and our reputation.

RISKS RELATED TO OUR BUSINESS

MANAGING COMMERCIAL TIMBERLANDS RISKS

Our ability to harvest and deliver timber may be subject to limitations which could adversely affect our results of operations.

Our primary assets are our timberlands. Weather conditions, timber growth cycles, access limitations, and availability of contract loggers and haulers may adversely affect our ability to harvest our timberlands. Other factors that may adversely affect our timber harvest include damage to our standing timber by fire or by insect infestation, disease, prolonged drought, flooding, severe weather and other natural disasters. Changes in global climate conditions could intensify one or more of these factors. Although damage from such causes usually is localized and affects only a limited percentage of standing timber, there can be no assurance that any damage affecting our timberlands will in fact be limited. As is common in the forest products industry, we do not maintain insurance coverage for damage to our timberlands. Our revenues, net income and cash flow from operations are dependent to a significant extent on the pricing of our products and our continued ability to harvest timber at adequate levels. Therefore, if we were to be restricted from harvesting on a significant portion of our timberlands for a prolonged period of time, or if material damage to a significant portion of our standing timber were to occur, we could suffer materially adverse effects to our results of operations.

Our timber harvest levels may be affected by acquisitions of additional timberlands, sales of existing timberlands and shifts in harvest from one region to another. Future timber harvest levels may also be affected by our ability to timely and effectively replant harvested areas, which depends on several factors including changes in estimates of long-term sustainable yield because of silvicultural advances, natural disasters, fires, pests, insects and other hazards, regulatory constraints, availability of logging contractors and other factors beyond our control.

Timber harvest activities are also subject to a number of federal, state and local regulations pertaining to the protection of fish, wildlife, water and other resources. Regulations, re-interpretations and litigation can restrict timber harvest activities and increase costs. Examples include federal and state laws protecting threatened, endangered and "at-risk" species, harvesting and forestry road building activities that may be restricted under the U.S. Federal Clean Water Act, state forestry practices laws, laws protecting aboriginal rights, and other similar regulations.

Our estimates of timber inventories and growth rates may be inaccurate and include risks inherent in calculating such estimates, which may impair our ability to realize expected revenues.

Whether in connection with managing our existing timberland portfolio or assessing potential timberland acquisitions, we make and rely on important estimates of merchantable timber inventories. These include estimates of timber inventories that may be lawfully and economically harvested, timber growth rates and end-product yields. Timber growth rates and yield estimates are developed by forest biometricians and other experts using statistical measurements of tree samples on given property. These estimates are central to forecasting our anticipated timber harvests, revenues and expected cash flows. While the company has confidence in its timber inventory processes and the professionals in the field who administer it, growth and yield estimates are inherently inexact and uncertain. If these estimates are inaccurate, our ability to manage our timberlands in a sustainable or profitable manner may be compromised, which may cause our results of operations and our stock price to be adversely affected.

Our operating results and cash flows will be materially affected by supply and demand for timber.

A variety of factors affect prices for timber, including available supply, changes in economic conditions that affect demand, the level of domestic new construction and remodeling activity, interest rates, credit availability, population growth, weather conditions and pest infestation, and other factors. These factors vary by region, by timber type (i.e., sawlogs or pulpwood logs) and by species.

Timber prices are affected by changes in demand on a local, national and international level. The closure of a mill in a region where we own timber could have a material adverse effect on demand in that region, and therefore pricing. For example, as the demand for paper continues to decline, closures of pulp mills in some of our operating regions have adversely affected the regional demand for pulpwood and wood chips. Another example involves our export of logs to Asia. While recent demand from Asian markets has remained steady, some Asian markets, particularly in China, have a history of significant volatility. A decrease in demand for logs from one or more Asian markets could have a negative effect on log and lumber prices.

Timber prices are also affected by changes in timber availability at the local, national and international level. Our timberland ownership is concentrated in Alabama, Arkansas, Louisiana, Mississippi, North Carolina, Oklahoma, Oregon and Washington. In some of these states, much

of the timberland is privately owned. Increases in timber prices often result in substantial increases in harvesting on private timberlands, including lands not previously made available for commercial timber operations, causing a short-term increase in supply that moderates such price increases. In western states such as Oregon and Washington, where a greater proportion of timberland is government-owned, any substantial increase in timber harvesting from government-owned land could significantly reduce timber prices. Any decrease in the demand from our log export markets could also result in significant downward pressure on timber prices, particularly in the western region. On a local level, timber supplies can fluctuate depending on factors such as changes in weather conditions and harvest strategies of local timberland owners, as well as occasionally high timber salvage efforts due to events such as pest infestations, fires or other natural disasters.

Timberlands make up a significant portion of our business portfolio.

Our real property holdings are primarily timberlands and we may make additional timberlands acquisitions in the future. As the owner and manager of approximately 12.2 million acres of timberlands, we are subject to the risks that are inherent in concentrated real estate investments. A downturn in the real estate industry generally, or the timber or forest products industries specifically, could reduce the value of our properties and adversely affect our results of operations. Such a downturn could also adversely affect our customers and reduce the demand for our products, as well as our ability to execute upon our strategy of selling nonstrategic timberlands and timberland properties that have higher and better uses at attractive prices. These risks may be more pronounced than if we diversified our investments outside of real property holdings.

MANUFACTURING AND SELLING WOOD PRODUCTS RISKS

A material disruption at one of our manufacturing facilities could prevent us from meeting customer demand, reduce our sales, and negatively affect our results of operation and 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:

- unscheduled maintenance outages;
- prolonged power failures;
- equipment failure;
- chemical spill or release;
- explosion of a boiler;
- fires, floods, windstorms, earthquakes, hurricanes or other severe weather conditions or catastrophes, affecting the production of goods or the supply of raw materials (including fiber);
- the effect of drought or reduced rainfall on water supply;
- labor difficulties;
- disruptions in transportation or transportation infrastructure, including roads, bridges, rail, tunnels, shipping and port facilities;
- terrorism or threats of terrorism;
- cyber attack;
- governmental regulations; and
- other operational problems.

We cannot predict the duration of any such downtime or extent of facility damage. If one of our facilities or machines were to incur significant downtime, our ability to meet our production targets and satisfy customer demand could be impaired, resulting in lower sales and income. Additionally, we may be required to make significant unplanned capital expenditures. Although some risks are not insurable and some coverage is limited, we purchase insurance on our manufacturing facilities for damage from fires, floods, windstorms, earthquakes, equipment failures and boiler explosions. Such insurance may not be sufficient to recover all of our damages.

Some of our wood products are vulnerable to declines in demand due to competing technologies or materials.

Our products compete with non-fiber based alternatives or with alternative products in certain market segments. For example, plastic, wood/plastic or composite materials may be used by builders as alternatives to our wood products such as lumber, veneer, plywood and oriented strand board. Changes in prices for oil, chemicals and wood-based fiber can change the competitive position of our products relative to available alternatives and could increase substitution of those products for our products. If use of these or other alternative products grows, demand for and pricing of our products could be adversely affected.

Our results of operations and financial condition could be materially adversely affected by changes in product mix or pricing.

Our results may be materially adversely affected by a change in our product mix or pricing. Some of our wood products, such as lumber, veneer, plywood and oriented strand board, are commodities and are subject to fluctuations in market pricing. If pricing on our commodity products decreases and if we are not successful in increasing sales of higher-priced, higher-value products, or if we are not successful in implementing price increases, or there are delays in acceptance of price increases or higher-priced products, our results of operations and financial condition could be materially and adversely affected. Price discounting, if required to maintain our competitive position in one or more markets, could result in lower than anticipated price realizations and margins.

We face intense competition in our markets; any failure to compete effectively could have a material adverse effect on our business, financial condition and results of operations.

We compete with North American producers and, for some of our product lines, global producers, some of which may have greater financial resources and lower production costs than do we. The principal basis for competition for many of our products is selling price. Our industries also are particularly sensitive to other factors including innovation, design, quality and service, with varying emphasis on these factors depending on the product line. To the extent that any of our competitors are more successful with respect to any key competitive factor, our ability to attract and retain customers and maintain and increase sales could be materially adversely affected. Any failure to compete effectively could have a material adverse effect on our business, financial condition and results of operations.

Another form of competition is between brands of sustainably produced products; customer demand for certain brands could reduce competition among buyers for our products or cause other adverse effects.

We have adopted the Sustainable Forestry Initiative (SFI) standard for wood fiber supplied to our manufacturing facilities, both from our timberlands and from third-party suppliers. Some of our customers have expressed a preference in certain of our product lines for products made from raw materials sourced from forests certified to different standards, including standards of the Forest Stewardship Council (FSC). If customer preference for a sustainability standard other than SFI increases, or if the SFI standard falls into disfavor, there may be reduced demand and lower prices for our products relative to competitors who can supply products sourced from forests certified to competing certification standards. If we seek to comply with such other standards, we could incur materially increased costs for our operations or be required to modify our operations, such as reducing harvest levels. FSC, in particular, employs standards that are geographically variable and could cause a material reduction in the harvest levels of some of our timberlands, most notably in the Pacific Northwest.

Our business and operations could be materially adversely affected by changes in the cost or availability of raw materials and energy.

We rely heavily on certain raw materials (principally wood fiber and chemicals) and energy sources (principally natural gas, electricity and fuel oil) in our manufacturing processes. Our ability to increase earnings has been, and will continue to be, affected by changes in the costs and availability of such raw materials and energy sources. We may not be able to fully offset the effects of higher raw material or energy costs through price increases, productivity improvements, cost-reduction programs or hedging arrangements.

RISKS RELATED TO CAPITAL MARKETS

CAPITAL MARKETS

Deterioration in economic conditions and capital markets could adversely affect our access to capital.

Challenging market conditions could impair the company's ability to raise debt or equity capital or otherwise access capital markets on terms acceptable to us, which may, among other effects, reduce our ability to take advantage of growth and expansion opportunities. Likewise, our customers and suppliers may be unable to raise capital to fund their operations, which could, in turn, adversely affect their ability to purchase products or sell products to us.

CREDIT RATINGS

Changes in credit ratings issued by nationally recognized rating organizations could adversely affect our cost of financing and have an adverse effect on the market price of our securities.

Credit rating agencies rate our debt securities on factors that include our operating results and balance sheet, actions that we take, their view of the general outlook for our industry and their view of the general outlook for the economy. Ratings decisions by these agencies include maintaining, upgrading or downgrading our current rating, as well as placing the company on a "watch list" for possible future ratings actions. Any downgrade of our credit rating, or decision by a rating agency to place us on a "watch list" for possible future downgrading could have an adverse effect on our ability to access credit markets, increase our cost of financing, and have an adverse effect on the market price of our securities.

CAPITAL REQUIREMENTS AND ACCESS TO CAPITAL

Access to capital required for our operations may be costly or impaired.

Our businesses require substantial capital for expansion and for repair or replacement of existing facilities or equipment. Although we maintain our production equipment with regular scheduled maintenance, key pieces of equipment may need to be repaired or replaced periodically. The costs of repairing or replacing such equipment and the associated downtime of the affected production line could have a significant effect on our financial condition, results of operations and cash flows.

While we believe our capital resources will be adequate to meet our current projected operating needs, capital expenditures and other cash requirements, if for any reason we are unable to access capital for our operating needs, capital expenditures and other cash requirements on acceptable economic terms, or at all, we could experience a material adverse effect on our business, financial condition, results of operations and cash flows.

FOREIGN CURRENCY

We will be affected by changes in currency exchange rates.

We have manufacturing operations in Canada. We are also an exporter and compete with global producers of products very similar to ours. Therefore, we are affected by changes in the strength of the U.S. dollar, particularly relative to the Canadian dollar, euro, yuan and yen, and the strength of the euro relative to the yen. Changes in exchange rates could materially and adversely affect our sales volume, margins and results of operations.

RISKS RELATED TO LEGAL, REGULATORY AND TAX

ENVIRONMENTAL LAWS AND REGULATIONS

We could incur substantial costs as a result of compliance with, violations of, or liabilities under applicable environmental laws and other laws and regulations.

We are subject to a wide range of general and industry-specific laws and regulations relating to the protection of the environment, including those governing:

- air emissions,
- wastewater discharges,
- harvesting and other silvicultural activities,
- forestry operations and endangered species habitat protection,
- surface water management,
- the storage, usage, management and disposal of hazardous substances and wastes,
- the cleanup of contaminated sites,
- landfill operation and closure obligations,
- building codes, and
- health and safety matters.

We have incurred, and we expect to continue to incur, significant capital, operating and other expenditures complying with applicable environmental laws and regulations and as a result of remedial obligations. We also could incur substantial costs, such as civil or criminal fines, sanctions and enforcement actions (including orders limiting our operations or requiring corrective measures, installation of pollution control equipment or other remedial actions), 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 and regulations.

As the owner and operator of real estate, we may be liable under environmental laws for cleanup, closure and other damages resulting from the presence and release of hazardous substances on or from our properties or operations. In addition, surface water management regulations may present liabilities and are subject to change. The amount and timing of environmental expenditures is difficult to predict, and in some cases, our liability may exceed forecasted amounts or the value of the property itself. The discovery of additional contamination or the imposition of additional cleanup obligations at our sites or third-party sites may result in significant additional costs.

We also lease some of our properties to third-party operators for the purpose of exploring, extracting, developing and producing oil, gas, rock and other minerals in exchange for fees and royalty payments. These activities are also subject to federal, state and local laws and regulations. These operations may create risk of environmental liabilities for any unlawful discharge of oil, gas or other chemicals into the air, soil or water. Generally, these third-party operators indemnify us against any such liability, and we require that they maintain liability insurance during the term of our lease with them. However, if for any reason our third-party operators are not able to honor their indemnity obligation, or if the required liability insurance were not in effect, then it is possible that we could be deemed responsible for costs associated with environmental liability caused by such third-party operators.

Any material liability we incur as a result of activities conducted on our properties by us or by others with whom we have a business relationship could adversely affect our financial condition.

We also anticipate public policy developments at the state, federal and international level regarding climate change and energy access, security and competitiveness. We expect these developments to address emission of carbon dioxide, renewable energy and fuel standards, and the monetization of carbon. Compliance with regulations that implement new public policy in these areas might require significant expenditures. These developments may also include mandated changes to energy use and building codes which could affect our homebuilding practices. Enactment of new environmental laws or regulations or changes in existing laws or regulations, or the interpretation of these laws or regulations, might require significant expenditures. We also anticipate public policy developments at the state, federal and international level regarding taxes and a number of other areas that could require significant expenditures.

Changes in global or regional climate conditions and governmental response to such changes at the international, U.S. federal and state levels may affect our operations or our planned or future growth activities.

There continue to be numerous international, U.S. federal and state-level initiatives and proposals to address domestic and global climate issues. Within the U.S. and Canada, some of these proposals would (and have in some Canadian provinces) regulate and/or tax the production of carbon dioxide and other greenhouse gases to facilitate the reduction of carbon compound emissions into the atmosphere and provide tax and other incentives to produce and use cleaner energy. Climate change effects, if they occur, and governmental initiatives, laws and regulations to address potential climate concerns, could increase our costs and have a long-term adverse effect on our businesses and results of operations. Future legislation or regulatory activity in this area remains uncertain, and its effect on our operations is unclear at this time. However, it is possible that legislation or government mandates, standards or regulations intended to mitigate or reduce carbon compound or greenhouse gas emissions or other climate change effects could adversely affect our operations. For example, such activities could limit harvest levels or result in significantly higher costs for energy and other raw materials. Because our manufacturing operations depend upon significant amounts of energy and raw materials, these initiatives could have an adverse effect on our results of operations and profitability.

LEGAL MATTERS

We are involved in various environmental, regulatory, product liability and other legal matters, disputes and proceedings that, if determined or concluded in a manner adverse to our interests, could have a material adverse effect on our financial condition.

We are, from time to time, involved in a number of legal matters, disputes and proceedings (legal matters), some of which involve on-going litigation. These include, without limitation, legal matters involving environmental clean-up and remediation, warranty and non-warranty product liability claims, regulatory issues, contractual and personal injury claims and other legal matters. In some cases, all or a portion of any loss we experience in connection with any such legal matters will be covered by insurance; in other cases, any such losses will not be covered.

The outcome, costs and other effects of current legal matters in which we are involved, and any related insurance recoveries, cannot be determined with certainty. Although the disclosures in [Note 15: Legal Proceedings, Commitments and Contingencies](#) and [Note 20: Income Taxes](#) in the [Notes to Consolidated Financial Statements](#) contain management's current views of the effect such legal matters could have on our financial results, there can be no assurance that the outcome of such legal matters will be as currently expected. It is possible that there could be adverse judgments against us in some or all major litigation matters against us, and that we could be required to take a charge and make cash payments for all or a portion of any related awards of damages. Any one or more of such charges or cash payment could materially and adversely affect our results of operations or cash flows for the quarter or year in which we record or pay it.

REIT STATUS AND TAX IMPLICATIONS

If we fail to remain qualified as a REIT, our taxable income would be subject to tax at corporate rates and we would not be able to deduct dividends to shareholders.

In any taxable year in which we fail to qualify as a REIT, unless we are entitled to relief under the Internal Revenue Code:

- We would not be allowed to deduct dividends to shareholders in computing our taxable income.
- We would be subject to federal and state income tax on our taxable income at applicable corporate rates.
- We also would be disqualified from treatment as a REIT for the four taxable years following the year during which we lost qualification.

Qualification as a REIT involves the application of highly technical and complex provisions of the Internal Revenue Code to our operations and the determination of various factual matters and circumstances not entirely within our control. There are only limited judicial or administrative interpretations of these provisions. Although we operate in a manner consistent with the REIT qualification rules, we cannot assure you that we are or will remain so qualified.

Certain of our business activities are subject to corporate-level income tax and potentially subject to prohibited transactions tax.

Under the Internal Revenue Code, REITs generally must engage in the ownership and management of income producing real estate. For the company, this generally includes owning and managing a timberland portfolio for the production and sale of standing timber. Accordingly, the harvesting and sale of logs, the development or sale of certain timberlands and other real estate, and the manufacture and sale of wood products are conducted through one or more of our wholly-owned taxable REIT subsidiaries (TRSs), the net income of which is subject to corporate-level tax, because such activities could generate non-qualifying REIT income and thus could constitute "prohibited transactions." Prohibited transactions are defined by the Internal Revenue Code generally to be sales or other dispositions of property to customers in the ordinary course of a trade or business. By conducting our business in this manner, we believe that we satisfy the REIT requirements of the Internal Revenue Code. However, if the IRS were to successfully assert that these or any of our activities conducted at the REIT constituted prohibited transactions, we could be subject to the 100 percent tax on the net income from such activities.

The extent of our use of our TRSs may affect the price of our common shares relative to the share price of other REITs.

We conduct a significant portion of our business activities through one or more TRSs. The use of our TRSs enables us to engage in non-REIT qualifying business activities such as the sale of logs, production and sale of wood products, and the development and sale of certain higher and better use (HBU) property. Our TRSs are subject to corporate-level income tax. Under the Code, no more than 20 percent of the value of the gross assets of a REIT may be represented by securities of one or more TRSs. This limitation may affect our ability to increase the size of our TRSs' operations. Furthermore, our use of TRSs may cause the market to value our common shares differently than the shares of other REITs, which may not use TRSs as extensively as we use them.

We may be limited in our ability to fund distributions using cash generated through our TRSs.

The ability of the REIT to receive dividends from our TRSs is limited by the rules with which we must comply to maintain our status as a REIT. In particular, at least 75 percent of gross income for each taxable year as a REIT must be derived from real estate sources including sales of our standing timber and other types of qualifying real estate income and no more than 25 percent of our gross income may consist of dividends from our TRSs and other non-real estate income.

This limitation on our ability to receive dividends from our TRSs may affect our ability to fund cash distributions to our shareholders using cash flows from our TRSs. The net income of our TRSs is not required to be distributed, and TRS income that is not distributed to the REIT will not be subject to the REIT income distribution requirement.

Our cash dividends are not guaranteed and may fluctuate.

Generally, REITs are required to distribute 90 percent of their ordinary taxable income and 95 percent of their net capital gains income. Capital gains may be retained by the REIT but would be subject to corporate income taxes. If capital gains are retained rather than distributed, our shareholders would be notified, and they would be deemed to have received a taxable distribution, with a refundable credit for any federal income tax paid by the REIT. Accordingly, we believe that we are not required to distribute material amounts of cash since substantially all of our taxable income is treated as capital gains income. Our board of directors, in its sole discretion, determines the amount of quarterly dividends to be provided to our shareholders based on consideration of a number of factors. These factors include, but are not limited to, our results of operations, cash flow and capital requirements, economic conditions, tax considerations, borrowing capacity and other factors, including debt covenant restrictions that may impose limitations on cash payments, future acquisitions and divestitures, harvest levels, changes in the price and demand for our products and general market demand for timberlands including those timberland properties that have higher and better uses. Consequently, our dividend levels may fluctuate.

Changes in tax laws or their interpretation could adversely affect our shareholders and our results of operations.

Federal and state tax laws are constantly under review by persons involved in the legislative process, the Internal Revenue Service, the United States Department of the Treasury, and state taxing authorities. Changes to tax laws could adversely affect our shareholders or increase our effective tax rates. We cannot predict with certainty whether, when, in what forms, or with what effective dates, the tax laws applicable to us or our shareholders may be changed.

IMPORT/EXPORT TAXES AND DUTIES

We may be required to pay significant taxes or tariffs on our exported products or countervailing and anti-dumping duties or tariffs on our imported products.

We export logs and finished wood products to foreign markets, and our ability to do so profitably is affected by U.S. and foreign trade policy. International trade disputes occur frequently and can be taken to an International Trade Court for resolution of unfair trade practices between countries.

U.S. international trade policy could result in one or more of our foreign export market jurisdictions adopting responsive trade policy making it more difficult or costly for us to export our products to those countries. We could therefore experience reduced revenues and margins in any of our businesses that is adversely affected by international trade tariffs, duties, taxes, customs or dispute settlement terms. To the extent such trade policies increase prices, they could also reduce the demand for our products and could have a material adverse effect on our business, financial results and financial condition, including facility closures or impairments of assets. We cannot predict future trade policy or the terms of any settlements of international trade disputes and their effect on our business.

OUR MERGER WITH PLUM CREEK TIMBER COMPANY, INC.

We could incur substantial U.S. federal tax liability in connection with our merger with Plum Creek.

On February 19, 2016, Plum Creek Timber Company, Inc. merged with and into Weyerhaeuser Company, with Weyerhaeuser continuing as the surviving company. Both companies have operated in a manner intended to qualify them as "REITs" for U.S. federal income tax purposes under the Internal Revenue Code. See "REIT Status and Tax Implications" above for a description of the consequences of our failure to maintain REIT status. However, even if we have operated in a manner that allows us to retain our REIT status, if Plum Creek were deemed to have lost its REIT status for a taxable year before the merger or the taxable year in which the merger occurred, we could face serious tax consequences that could substantially reduce cash available for distribution to our shareholders and significantly impair our ability to expand our business and raise capital. In addition, if the merger were determined not to qualify as a tax-free merger, we could incur substantial federal tax liability that could materially and adversely affect the company's cash flows, financial condition and results of operations.

OTHER RISKS

CYBERSECURITY

We rely on information technology to support our operations and reporting environments. A security failure of that technology could affect our ability to operate our businesses effectively, adversely affect our reported financial results, affect our reputation and expose us to potential liability or litigation.

We use information systems to carry out our operational activities, maintain our business records, collect and store sensitive data, including intellectual property, other proprietary and personally identifiable information. Some systems are internally managed and some are maintained by third-party service providers. We and our service providers employ what we believe are reasonably adequate security measures, but notwithstanding these efforts, our systems could be compromised as a result of a cyber incident, natural disaster, hardware or software corruption, failure or error, telecommunications system failure, service provider error or failure, intentional or unintentional personnel actions or other disruption. If by any cause our systems or information resources were compromised, or if our data were destroyed, misappropriated or inappropriately disclosed, our business operations could be negatively affected. Additionally, we could suffer significant loss or incur significant liability, including: damage to our reputation; loss of customer confidence or goodwill; and significant expenditures of time and money to address and remediate resulting damages to affected individuals or business partners, or to defend ourselves in resulting litigation or other legal proceedings, by affected individuals, business partners or regulators.

PENSION PLAN LIABILITY

Investment returns on our pension assets may be lower than expected, or interest rates may decline, requiring us to make significant additional cash contributions to our benefit plans.

A portion of our current and former employees have accrued benefits under our defined benefit pension plans. Although the plans are not open to employees hired on or after January 1, 2014, current employees hired before that time continue to accrue benefits. Requirements for funding our pension plan liabilities are based on a number of actuarial assumptions, including the expected rate of return on our plan assets and the discount rate applied to our pension plan obligations. Fluctuations in equity market returns and changes in long-term interest rates could increase our costs under our plans and may significantly affect future contribution requirements. It is unknown what the actual investment return on our pension assets will be in future years and what interest rates may be at any given point in time. We cannot therefore provide any assurance of what our actual pension plan costs will be in the future, or whether we will be required under applicable law to make future material plan contributions. See [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#) for additional information about these plans, including funding status.

STRATEGIC INITIATIVES

Our business and financial results may be adversely affected if we are unable to successfully execute on important strategic initiatives.

There can be no assurance that we will be able to successfully implement important strategic initiatives in accordance with our expectations, which may result in an adverse effect on our business and financial results. These strategic initiatives are designed to improve our results of operations and drive long-term shareholder value, and include, among others: optimizing cash flow through operational excellence; reducing costs to achieve industry-leading cost structure; and innovating in higher-margin products.

We may be unsuccessful in carrying out our acquisition strategy.

We intend to strategically pursue acquisitions of timberland properties when market conditions warrant. As with any investment, our acquisitions may not perform in accordance with our expectations. In addition, we anticipate financing such acquisitions through cash from operations,

borrowings under our unsecured credit facilities, proceeds from equity or debt offerings or proceeds from asset dispositions, or any combination thereof. Our inability to finance future acquisitions on favorable terms could adversely affect our results of operations.

WORKFORCE

Our business is dependent upon attracting, retaining and developing key personnel.

Our success depends, to a significant extent, upon our ability to attract, retain and develop senior management, operations management and other key personnel. Our financial condition or results of operations could be significantly adversely affected if we were to fail to recruit, retain, and develop such personnel, or if there were to occur any significant increase in the cost of providing such personnel with competitive total compensation and benefits.

Availability of Independent Contractors

We use independent third-party contract loggers and haulers to deliver our logs to our customers. As a result of the weak business conditions in the timber business that persisted for several years, there are fewer of these contractors available in certain markets to harvest and deliver logs. This shortage in logging and hauling contractors has resulted in an overall increase in logging and hauling costs and, in some cases, the general availability of these contractors. Any increase in harvest levels due to positive changes in macroeconomic conditions driving demand for logs could further strain the existing supply of logging and hauling contractors. This, in turn, could increase the cost of log supply and delivery, or prevent us from fully capitalizing on favorable market conditions by limiting our ability to access and deliver our logs to market.

STOCK PRICE VOLATILITY

The market price of our common stock may be influenced by many factors, some of which are beyond our control.

The market price of our common stock may be influenced by many factors, some of which are beyond our control, including without limitation those described above and elsewhere in this report, as well as the following:

- actual or anticipated fluctuations in our operating results or our competitors' operating results;
- announcements by us or our competitors of new products, capacity changes, significant contracts, acquisitions or strategic investments;
- our growth rate and our competitors' growth rates;
- general economic conditions;
- conditions in the financial markets;
- market interest rates and the relative yields on other financial instruments;
- general perceptions and expectations regarding housing markets, interest rates, commodity prices, and currencies;
- changes in stock market analyst recommendations regarding us, our competitors or the forest products industry generally, or lack of analyst coverage of our common stock;
- sales of our common stock by our executive officers, directors and significant shareholders;
- sales or repurchases of substantial amounts of common stock;
- changes in accounting principles; and
- changes in tax laws and regulations.

In addition, there has been significant volatility in the market price and trading volume of securities of companies operating in the forest products industry that often has been unrelated to individual company operating performance.

Some companies that have experienced volatile market prices for their securities have had securities litigation brought against them. If litigation of this type is brought against us, it could result in substantial costs and divert management's attention and resources.

UNRESOLVED STAFF COMMENTS

There are no unresolved comments that were received from the SEC staff relating to our periodic or current reports under the Securities Exchange Act of 1934.

PROPERTIES

Details about our facilities, production capacities and locations are found in the [Our Business — What We Do](#) section of this report.

- For details about our Timberlands properties, go to [Our Business/What We Do/Timberlands/Where We Do It](#).
- For details about our Real Estate, Energy and Natural Resources properties, go to [Our Business/What We Do/Real Estate, Energy and Natural Resources/Where We Do It](#).
- For details about our Wood Products properties, go to [Our Business/What We Do/Wood Products/Where We Do It](#).

LEGAL PROCEEDINGS

See [Note 15: Legal Proceedings, Commitments and Contingencies](#) and [Note 21: Income Taxes](#) in the [Notes to Consolidated Financial Statements](#) for a summary of legal proceedings.

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

Our common stock trades on the New York Stock Exchange under the symbol WY.

As of December 31, 2018, there were 14,525 holders of record of our common shares. Dividend-per-share data for each of the four quarters in 2018 and 2017 are included in [Note 23: Selected Quarterly Financial Information \(unaudited\)](#) in the [Notes to Consolidated Financial Statements](#).

INFORMATION ABOUT SECURITIES AUTHORIZED FOR ISSUANCE UNDER OUR EQUITY COMPENSATION PLAN

	NUMBER OF SECURITIES TO BE ISSUED UPON EXERCISE OF OUTSTANDING OPTIONS, WARRANTS AND RIGHTS	WEIGHTED AVERAGE EXERCISE PRICE OF OUTSTANDING OPTIONS, WARRANTS AND RIGHTS	NUMBER OF SECURITIES REMAINING AVAILABLE FOR FUTURE ISSUANCE UNDER EQUITY COMPENSATION PLANS (EXCLUDING SECURITIES TO BE ISSUED UPON EXERCISE)
Equity compensation plans approved by security holders ⁽¹⁾	9,180,693	\$ 19.01	20,554,887
Equity compensation plans not approved by security holders	N/A	N/A	N/A
Total	9,180,693	\$ 19.01	20,554,887

(1) Includes 1,592,843 restricted stock units and 1,040,582 performance share units. Because there is no exercise price associated with restricted stock units and performance share units, excluding these stock units the weighted average exercise price calculation would be \$26.66.

INFORMATION ABOUT COMMON SHARE REPURCHASES

The following table provides information with respect to purchases of common shares made by the company during fourth quarter 2018:

COMMON SHARE REPURCHASE DURING FOURTH QUARTER 2018	TOTAL NUMBER OF SHARES PURCHASED	AVERAGE PRICE PAID PER SHARE	TOTAL NUMBER OF SHARES PURCHASED AS PART OF PUBLICLY ANNOUNCED PLANS OR PROGRAMS	APPROXIMATE DOLLAR VALUE OF SHARES THAT MAY YET BE PURCHASED UNDER THE PLANS OR PROGRAMS ⁽¹⁾
October 1 - October 31	394,223	\$ 26.13	394,223	\$ 199,311,977
November 1 - November 30	1,475,848	27.10	1,475,848	159,313,972
December 1 - December 31	954,418	25.86	954,418	134,633,963
Total	2,824,489	\$ 26.55	2,824,489	\$ 134,633,963

(1) During fourth quarter 2018, we repurchased 2.8 million shares of common stock for \$75 million (including transaction fees) under the 2016 Share Repurchase Authorization. The 2016 Share Repurchase Authorization was approved in November 2015 by our Board of Directors and authorized management to repurchase up to \$2.5 billion of outstanding shares subsequent to the closing of our merger with Plum Creek. Transaction fees incurred for repurchases are not counted as use of funds authorized for repurchase under the 2016 Share Repurchase Authorization. All common stock purchases under the stock repurchase program were made in open-market transactions.

COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL SHAREHOLDER RETURN

Weyerhaeuser Company, S&P 500 and S&P Global Timber & Forestry Index



PERFORMANCE GRAPH ASSUMPTIONS

- Assumes \$100 invested on December 31, 2013, in Weyerhaeuser common stock, the S&P 500 Index and the S&P Global Timber & Forestry Index.
- Total return assumes dividends received are reinvested at month end.
- Measurement dates are the last trading day of the calendar year shown.

SELECTED FINANCIAL DATA

DOLLAR AMOUNTS IN MILLIONS, EXCEPT PER-SHARE FIGURES

PER COMMON SHARE					
	2018	2017	2016	2015	2014
Diluted earnings from continuing operations attributable to Weyerhaeuser common shareholders	\$ 0.99	\$ 0.77	\$ 0.55	\$ 0.71	\$ 1.02
Diluted earnings from discontinued operations attributable to Weyerhaeuser common shareholders	\$ —	\$ —	\$ 0.84	\$ 0.18	\$ 2.16
Diluted net earnings attributable to Weyerhaeuser common shareholders	\$ 0.99	\$ 0.77	\$ 1.39	\$ 0.89	\$ 3.18
Dividends paid	\$ 1.32	\$ 1.25	\$ 1.24	\$ 1.20	\$ 1.02
Weyerhaeuser shareholders' interest (end of year)	\$ 12.12	\$ 11.78	\$ 12.26	\$ 9.54	\$ 10.11
FINANCIAL POSITION					
	2018	2017	2016	2015	2014
Total assets	\$ 17,249	\$ 18,059	\$ 19,243	\$ 12,470	\$ 13,247
Total long-term debt, including current portion, and borrowings on line of credit ⁽¹⁾	\$ 6,344	\$ 5,992	\$ 6,610	\$ 4,787	\$ 4,873
Weyerhaeuser shareholders' interest	\$ 9,046	\$ 8,899	\$ 9,180	\$ 4,869	\$ 5,304
Percent earned on average year-end Weyerhaeuser shareholders' interest	8.3%	6.4%	14.3%	9.1%	29.5%
OPERATING RESULTS					
	2018	2017	2016	2015	2014
Net sales	\$ 7,476	7,196	6,365	5,246	5,489
Earnings from continuing operations	748	582	415	411	616
Discontinued operations, net of income taxes	—	—	612	95	1,210
Net earnings	748	582	1,027	506	1,826
Dividends on preference shares	—	—	(22)	(44)	(44)
Net earnings attributable to Weyerhaeuser common shareholders	\$ 748	\$ 582	\$ 1,005	\$ 462	\$ 1,782
CASH FLOWS					
	2018	2017	2016	2015	2014
Net cash from operations	\$ 1,112	\$ 1,201	\$ 735	\$ 1,075	\$ 1,109
Net cash from investing activities	(440)	367	2,559	(487)	361
Net cash from financing activities	(1,162)	(1,420)	(3,630)	(1,156)	(725)
Net change in cash and cash equivalents	\$ (490)	\$ 148	\$ (336)	\$ (568)	\$ 745
STATISTICS (UNAUDITED)					
	2018	2017	2016	2015	2014
Number of employees	9,300	9,300	10,400	12,600	12,800
Number of common shareholder accounts at year-end	14,525	15,138	15,504	7,700	8,248
Number of common shares outstanding at year-end (thousands)	746,391	755,223	748,528	510,483	524,474
Weighted average common shares outstanding – diluted (thousands)	756,827	756,666	722,401	519,618	560,899
(1) Does not include nonrecourse debt held by our Variable Interest Entities (VIEs). See Note 9: Related Parties in the Notes to Consolidated Financial Statements for further information on our VIEs and the related nonrecourse debt.					

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (MD&A)

WHAT YOU WILL FIND IN THIS MD&A

Our MD&A includes the following major sections:

- economic and market conditions affecting our operations;
- financial performance summary;
- discussion of the softwood lumber agreement;
- results of our operations — consolidated and by segment;
- liquidity and capital resources — where we discuss our cash flows;
- off-balance sheet arrangements;
- environmental matters, legal proceedings and other contingencies; and
- accounting matters — where we discuss critical accounting policies and areas requiring judgments and estimates.

ECONOMIC AND MARKET CONDITIONS AFFECTING OUR OPERATIONS

The demand for grade logs within our Timberlands segment is directly affected by production levels of domestic wood-based building products. The strength of the U.S. housing market strongly affects demand in our Wood Products segment, as does repair and remodeling activity. Our Timberlands segment, specifically the Western region, is also affected by export demand and trade policy. Japanese housing starts are a key driver of export log demand in Japan. The demand for pulpwood from our Timberlands segment is directly affected by the production of pulp, paper and OSB as well as the demand for biofuels, such as pellets made from pulpwood.

Due to the partial government shutdown that occurred through late January 2019, full-year 2018 housing data is unavailable, however, for the January 2018 through November 2018 period, housing starts were 1.18 million total units, which is 5 percent above the total of 1.12 units for the same period in 2017 according to the U.S. Census Bureau. Single family units totaled 825 thousand compared to 794 thousand in 2017, a 4 percent increase. Multifamily starts were 354 thousand units for the first 11 months of 2018, which is 8 percent higher than 2017 for the same period. We continue to expect improving U.S. housing starts and anticipate a level of approximately 1.30 million units in 2019 which would be a 3 percent gain over 2018, assuming the year to date gains continue into December. We attribute this continued improvement primarily to ongoing employment growth, strong consumer confidence and mortgage rates, which have stabilized and declined since peaking in late 2018 and remain affordable on a historic basis.

According to the Joint Center for Housing of Harvard University, the Leading Indicator of Remodeling Activity (LIRA) projects that the year-over-year increase in residential remodeling expenditures reached 7.2 percent in 2018 and is expected to average 6.5 percent in 2019, with expenditure growth tapering through the year and reaching the long term average level of 5.2 percent in the fourth quarter 2019.

In U.S. wood product markets, prices in 2018 were mixed, rising the first half of the year to post record levels in May and June, only to fall sharply in third and fourth quarter 2018, as supply issues related to transportation eased and producers increased output in response to high prices. According to Random Lengths, the framing lumber composite averaged \$459/MBF in 2018, an 11 percent increase over 2017. According to Forest Economic Advisors, LLC, U.S. lumber consumption is expected to grow at a 3.5 percent rate in 2019, however, due to declines forecast in off-shore export volumes and increases in off-shore imports, the increase in overall demand on North American mills is expected to rise by 2.5 percent over 2018. Log markets in the west were consistent with wood products manufacturing, exhibiting strong demand and pricing in the first half followed by slower demand and weaker market prices for western logs in the second half of 2018. In the south, log supplies kept pace with demand, leaving prices flat throughout 2018.

Log inventories in Chinese ports decreased 0.9 percent in December 2018 compared to November 2018 as reported by International Wood Markets China Bulletin. While the decline in overall volume was slight, there was a greater decline in North American Hemlock and Douglas fir volumes. These species were 5.9 percent lower in December 2018 compared to November 2018 which has positive implications for demand at the start of 2019 as suppliers will need to re-build depleted inventories. Total North American volumes increased in 2018 by 3 percent over 2017 despite retaliatory tariffs imposed by the Chinese government against U.S. imports. In addition, exchange rates also have an effect on our export business to China. A weaker yuan relative to the U.S. dollar reduces the competitiveness of U.S. logs relative to those imported from other countries whose currencies have not appreciated in a similar manner. During 2018, the yuan weakened relative to the U.S. dollar, which affects the competitiveness of our export logs to China.

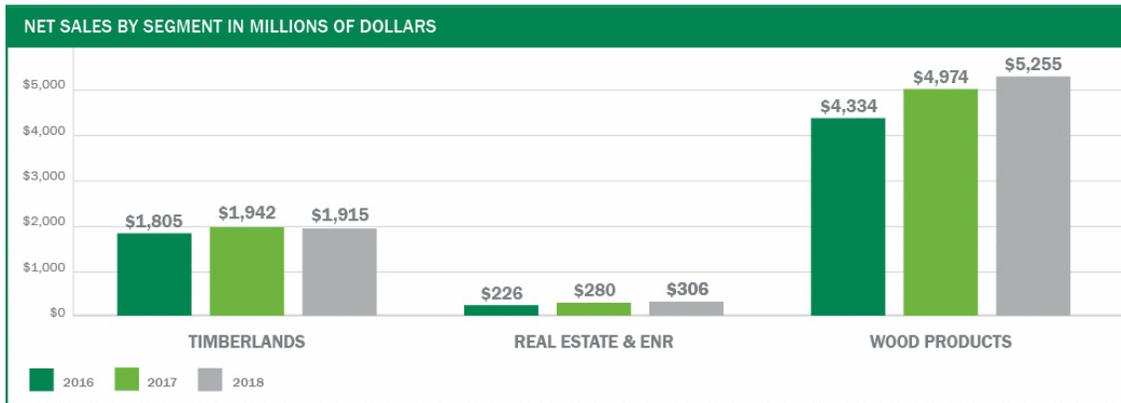
In Japan, housing starts for November year to date for 2018 were down 2.7 percent from the same period in 2017 while the key Post and Beam segment was 0.8 percent lower in the first 11 months of 2018 compared to 2017.

We expect demand from China and Japan in 2019 to be similar to demand experienced in 2018.

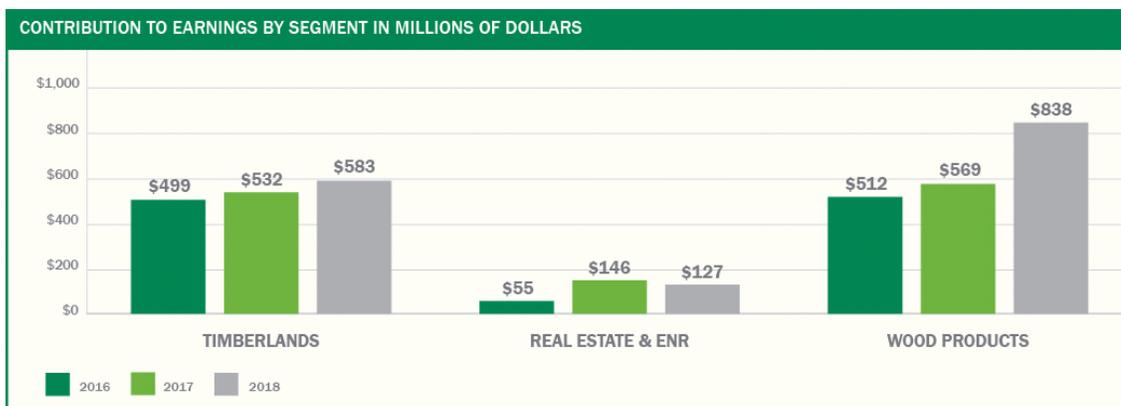
Our Real Estate & ENR segment is affected by the health of the U.S. economy and especially the U.S. housing sector of the economy. According to the Realtors Land Institute (RLI) of the National Association of Realtors, the dollar volume of rural properties sold, including timber, grew 2 percent in 2018, and per acre prices were also up 2 percent on average. Additionally, RLI expects these trends to continue with prices and volumes of land transactions forecast to rise 3 percent in 2019.

FINANCIAL PERFORMANCE SUMMARY

Net Sales by Segment



Contribution to Earnings by Segment



SOFTWOOD LUMBER AGREEMENT

We operate a total of 19 softwood lumber mills with a total capacity of approximately 5 billion board feet. Three of these mills, located in Canada, produce approximately 900 million board feet annually, and sell products in Canada, Asia, and the U.S.

In April 2017, the U.S. Department of Commerce announced a preliminary determination that it would implement countervailing duties (CVD) on Canadian softwood lumber shipments to the U.S at the rate of 19.88 percent with a 90 day retroactive period. The preliminary countervailing duties were suspended in August 2017, at which time we effectively stopped accruing for the expense. The suspension of the countervailing duties was set to last until the US International Trade Commission reached its final determination of injury, which was issued in December 2017.

In June 2017, the U.S. Department of Commerce announced a preliminary determination that it would implement anti-dumping duties (AD) on Canadian softwood lumber shipments to the U.S. at the rate of 6.87 percent with a 90 day retroactive period.

Affirmative final determinations by the Department of Commerce (DOC) and the US International Trade Commission (USITC) in December 2017 issued CVD and AD duty orders on certain softwood lumber products from Canada. Based on these determinations, the CVD rate applicable to Weyerhaeuser is 14.19 percent and is assessed on entries of softwood lumber from Canada for consumption on or after April 28, 2017. The AD rate applicable to Weyerhaeuser is 6.04 percent and is assessed on entries of softwood lumber from Canada for consumption on or after June 30, 2017.

For the years ended December 31, 2018 and December 31, 2017, we have expensed CVD and AD duties at the final published rates totaling \$21 million and \$7 million, respectively. These costs are recorded in "Costs of sales" within the Wood Products segment.

RESULTS OF OPERATIONS

In reviewing our results of operations, it is important to understand these terms:

- Sales realizations refer to net selling prices — this includes selling price plus freight minus normal sales deductions;
- Net contribution to earnings refers to earnings (loss) attributable to Weyerhaeuser shareholders before interest expense and income taxes.

Our merger with Plum Creek during first quarter 2016 affected the comparability of our consolidated operating results with 2016. Our results do not include pre-merger results of Plum Creek operations from January 1, 2016 through February 19, 2016.

CONSOLIDATED RESULTS

HOW WE DID IN 2018

Summary of Financial Results

DOLLAR AMOUNTS IN MILLIONS, EXCEPT PER-SHARE FIGURES					
	AMOUNT OF CHANGE				
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Net sales	\$ 7,476	\$ 7,196	\$ 6,365	\$ 280	\$ 831
Costs of sales	\$ 5,592	\$ 5,298	\$ 4,980	\$ 294	\$ 318
Operating income	\$ 1,394	\$ 1,131	\$ 822	\$ 263	\$ 309
Earnings from discontinued operations, net of tax	\$ —	\$ —	\$ 612	\$ —	\$ (612)
Net earnings attributable to Weyerhaeuser common shareholders	\$ 748	\$ 582	\$ 1,005	\$ 166	\$ (423)
Basic earnings per share attributable to Weyerhaeuser common shareholders	\$ 0.99	\$ 0.77	\$ 1.40	\$ 0.22	\$ (0.63)
Diluted earnings per share attributable to Weyerhaeuser common shareholders	\$ 0.99	\$ 0.77	\$ 1.39	\$ 0.22	\$ (0.62)

COMPARING 2018 WITH 2017

Net Sales

Net sales increased \$280 million — 4 percent — primarily due to:

- Wood Products segment net sales to unaffiliated customers increased \$281 million, primarily attributable to increased sales realizations across all product lines; and
- Real Estate & ENR segment net sales to unaffiliated customers increased \$26 million primarily attributable to increased acres sold.

These increases were offset by a decrease in Timberlands segment net sales to unaffiliated customers by \$27 million, primarily attributable to decreased revenue resulting from the divestiture of our Uruguayan operations in third quarter 2017, partially offset by an increase in Western log sales realizations.

Costs of Sales

Costs of sales increased \$294 million — 6 percent — primarily due to increased log and fiber costs within our Wood Products and Timberlands segments as well as an increase in acres sold coupled with higher per acre basis of real estate sold within our Real Estate and ENR segment. Refer to additional analysis of fluctuations within our [Timberlands](#), [Real Estate](#), [Energy and Natural Resources](#) and [Wood Products](#) discussion below.

Operating Income

Operating income increased \$263 million — 23 percent — primarily due to:

- \$290 million decrease in charges for product remediation; and
- \$147 million decrease in charges related to a noncash pretax impairment in 2017, with no similar charges in 2018. This impairment was a result of our agreement to sell our Uruguayan operations, as announced during June 2017 (refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#)).

These increases were partially offset by the following:

- \$99 million gain recorded in fourth quarter 2017 that did not occur in 2018 as a result of the sale of land in our Southern timberlands region to Twin Creeks (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details);
- \$37 million decrease in environmental remediation insurance recoveries received; and
- \$14 million decreased consolidated gross margin, as described above.

Net Earnings Attributable to Weyerhaeuser Common Shareholders

Net earnings attributable to Weyerhaeuser common shareholders increased \$166 million — 29 percent — primarily due to:

- a \$263 million increase to operating income, as described above;
- a \$75 million decrease in income tax expense; and
- an \$18 million decrease in interest expense, net of capitalized interest.

These increases to net earnings were partially offset by a \$200 million decrease due to a noncash pretax settlement charge related to our U.S. qualified pension plan lump sum offer (refer to [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#))

COMPARING 2017 WITH 2016

Net Sales

Net sales increased \$831 million — 13 percent — primarily due to:

- Wood Products net sales to unaffiliated customers increased \$640 million primarily attributable to increased sales realizations across all product lines, as well as increased sales volumes within our oriented strand board, engineered I-joists, medium density fiberboard, and our engineered solid section product lines. Additionally, upon completion of the sales of our former Cellulose Fibers businesses, chips previously sold to Cellulose Fibers are now sales to unaffiliated customers. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details regarding these divestitures.
- Timberlands net sales to unaffiliated customers increased \$137 million, which is primarily attributable to increased Southern and Other (includes our Canadian operations and timberlands included in the Twin Creeks Venture) delivered log sales volumes, as well as, an increase in Western log sales prices.
- Real Estate & ENR net sales to unaffiliated customers increased \$54 million attributable to an increase in timberlands acres sold in Real Estate and an increase in royalties.

Costs of Sales

Costs of sales increased \$318 million — 6 percent — primarily due to increased sales volumes within our Wood Products segment, as described above. Refer to additional analysis of fluctuations within our [Timberlands](#), [Real Estate](#), [Energy and Natural Resources](#) and [Wood Products](#) discussion below.

Operating Income

Operating income increased \$309 million — 38 percent — primarily due to:

- an increase to consolidated gross margin of \$513 million, as described above;
- an increase in other operating income, net of \$75 million, which is primarily attributable to:
 - a \$99 million gain recorded in fourth quarter 2017 as a result of the sale of land in our Southern timberlands region to Twin Creeks (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details);
 - a \$42 million benefit related to environmental remediation insurance recoveries received in 2017; and
 - a \$44 million decrease in gains on disposition of nonstrategic assets, primarily attributable to a \$36 million pretax gain recognized in the first quarter of 2016 on the sale of our Federal Way, Washington headquarters campus (refer to [Note 20: Other Operating Costs \(Income\), Net](#) in the [Notes to Consolidated Financial Statements](#) for further information).

These increases were partially offset by the following:

- the addition of \$290 million in charges (recoveries) for product remediation, net in 2017, as there were no similar charges during 2016. Refer to [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) in the [Notes to Consolidated Financial Statements](#) for further information.
- a \$24 million increase in charges for integration and restructuring, closures and asset impairments, which is primarily attributable to a \$147 million noncash impairment charge recognized during second quarter 2017 in relation to the divestiture of our Uruguayan operations. This was partially offset by a \$112 million decrease in charges related to our merger with Plum Creek. Refer to [Note 18: Charges for Integration and Restructurings, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#) for further details regarding the impairment as well as the Plum Creek merger related costs.

Net Earnings Attributable to Weyerhaeuser Common Shareholders

Our net earnings attributable to Weyerhaeuser common shareholders decreased \$423 million — 42 percent — compared to 2016. Excluding earnings from discontinued operations, net of tax, net earnings attributable to Weyerhaeuser common shareholders increased \$189 million — 48 percent — primarily due to the increase in Operating income, as explained above. The increases in operating income were partially offset by a \$110 million increase in expense related to non-operating pension and other postretirement benefits (costs) credits due to a decrease in the expected return on our plan assets as well as an increase in the amortization of actuarial losses.

Earnings from discontinued operations, net of tax, decreased \$612 million — 100 percent — as all discontinued operations were sold in 2016.

TIMBERLANDS

HOW WE DID IN 2018

We report sales volume and annual production data for our Timberlands segment in [Our Business/What We Do/Timberlands](#).

Net Sales and Net Contribution to Earnings for Timberlands

DOLLAR AMOUNTS IN MILLIONS						AMOUNT OF CHANGE	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016		
Net sales to unaffiliated customers:							
Delivered logs ⁽¹⁾ :							
West	\$ 987	\$ 915	\$ 865	\$ 72	\$ 50		
South	625	616	566	9	50		
North	99	95	91	4	4		
Other	41	59	38	(18)	21		
Total	1,752	1,685	1,560	67	125		
Stumpage and pay-as-cut timber	59	73	85	(14)	(12)		
Uruguay operations ⁽²⁾	—	63	79	(63)	(16)		
Recreational and other lease revenue	59	59	44	—	15		
Other products ⁽³⁾	45	62	37	(17)	25		
Subtotal sales to unaffiliated customers	1,915	1,942	1,805	(27)	137		
Intersegment sales:							
United States	537	520	590	17	(70)		
Other	265	242	250	23	(8)		
Subtotal intersegment sales	802	762	840	40	(78)		
Total segment sales	2,717	2,704	2,645	13	59		
Costs of sales	\$ 2,052	\$ 2,043	\$ 2,054	\$ 9	\$ (11)		
Operating income and Net contribution to earnings	\$ 583	\$ 532	\$ 499	\$ 51	\$ 33		

(1) The Western region includes Oregon and Washington. The Southern region includes Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas and Virginia. The Northern region includes Maine, Michigan, Montana, New Hampshire, Vermont, West Virginia and Wisconsin. Other includes our Canadian operations and the timberlands of the Twin Creeks Venture that we managed. (Our management agreement for the Twin Creeks Venture began in April 2016 and terminated in December 2017. For additional information see *Note 9: Related Parties* in the *Notes to Consolidated Financial Statements*.

(2) Sales from our former Uruguayan operations included plywood and hardwood lumber. Our Uruguayan operations were divested on September 1, 2017. Refer to *Note 4: Discontinued Operations and Other Divestitures* in the *Notes to Consolidated Financial Statements* for further information on this divestiture.

(3) Other products sales include sales of seeds and seedlings from our nursery operations and chips.

COMPARING 2018 WITH 2017

Net Sales — Unaffiliated Customers

Net sales to unaffiliated customers decreased \$27 million — 1 percent — primarily due to the following:

- \$63 million decreased net sales resulting from the divestiture of our Uruguayan operations in third quarter 2017;
- \$18 million decreased net sales primarily attributable to lower sales volumes resulting from the termination of our management agreement for the Twin Creeks Venture in fourth quarter 2017; and
- \$17 million decreased net sales from Other products sold.

These decreases were partially offset by a \$72 million increase in Western log sales attributable to a 13 percent increase in Western log sales realizations, partially offset by a 4 percent decrease in delivered logs sales volumes.

Intersegment Sales

Intersegment sales increased \$40 million — 5 percent — primarily due to an increase in Western log sales realizations, as explained above.

Costs of Sales

Costs of sales increased \$9 million — less than 1 percent — primarily due to increased sourcing costs, driving a \$96 million increase in the West, an \$18 million increase in our Canadian operations and a \$6 million increase in the South.

The increases were partially offset by a \$109 million decrease in costs of sales from our Uruguayan operations, which were divested in third quarter 2017, and the termination of our management agreement for the Twin Creeks Venture in fourth quarter 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details.

Operating Income and Net Contribution to Earnings

Operating income and net contribution to earnings increased \$51 million — 10 percent — primarily due to a \$147 million noncash pretax impairment charge recorded in 2017 (no similar charge was recorded in 2018). This impairment was a result of our agreement to sell our Uruguayan operations, as announced during June 2017 (refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#) for further details).

This was partially offset by a \$99 million gain in 2017 as a result of the sale of land in our Southern timberlands region to Twin Creeks, with no similar gain recorded in 2018 (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details).

COMPARING 2017 WITH 2016

Net Sales — Unaffiliated Customers

Net sales to unaffiliated customers increased \$137 million — 8 percent — primarily due to:

- a \$50 million increase in Southern log sales attributable to a 12 percent increase in delivered logs sales volumes, partially offset by a 3 percent decrease in Southern log prices;
- a \$50 million increase in Western log sales attributable to a 12 percent increase in Western log prices, partially offset by a 6 percent decrease in delivered logs sales volumes;
- a \$25 million increase in Other products, primarily attributable to increased chips sales to unaffiliated customers (prior to our 2016 divestitures of our Cellulose Fibers businesses, chips sales were primarily intersegment sales); and
- a \$21 million increase in Other delivered logs, primarily due to a 55 percent increase in delivered logs sales volumes.

These increases were partially offset by a \$16 million decrease in our Uruguayan operations, primarily attributable to the divestiture that occurred during third quarter 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#).

Intersegment Sales

Intersegment sales decreased \$78 million — 9 percent — due to a decrease in chip and log intersegment sales, which were previously sold to our former Cellulose Fibers business segment. The businesses within this segment were divested during the second half of 2016. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further information on these divestitures.

Costs of Sales

Costs of sales decreased \$11 million — 1 percent — primarily due to:

- a \$23 million decrease due to the divestiture of our Uruguayan operations in third quarter 2017. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details; and
- a \$16 million decrease in the West, attributable to a decrease in delivered logs sales volumes.

These decreases were partially offset by a \$19 million increase in Canada primarily attributable to an increase in delivered logs sales volumes.

Operating Income and Net Contribution to Earnings

Operating income and net contribution to earnings increased \$33 million — 7 percent — primarily due to:

- a \$99 million gain recorded in fourth quarter 2017 as a result of the sale of land in our Southern timberlands region to Twin Creeks (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details); and
- a \$70 million increase in gross margin, as explained above.

These increases were partially offset by a \$147 million noncash pretax impairment charge recognized in relation to the divestiture of our Uruguayan operations. Refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#) for further details of this impairment.

REAL ESTATE, ENERGY AND NATURAL RESOURCES

HOW WE DID IN 2018

We report acres sold and average price per acre for our Real Estate, Energy and Natural Resources segment in *Our Business/What We Do/Real Estate, Energy and Natural Resources*.

Net Sales and Net Contribution to Earnings for Real Estate, Energy and Natural Resources

DOLLAR AMOUNTS IN MILLIONS					
				AMOUNT OF CHANGE	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Net sales to unaffiliated buyers:					
Real estate	\$ 229	\$ 208	\$ 172	\$ 21	\$ 36
Energy and natural resources	77	72	54	5	18
Subtotal sales to unaffiliated buyers	306	280	226	26	54
Intersegment sales	1	1	1	—	—
Total segment sales	\$ 307	\$ 281	\$ 227	\$ 26	\$ 54
Costs of sales	\$ 155	\$ 110	\$ 134	\$ 45	\$ (24)
Operating income	\$ 126	\$ 145	\$ 53	\$ (19)	\$ 92
Interest income and other	1	1	2	—	(1)
Net contribution to earnings	\$ 127	\$ 146	\$ 55	\$ (19)	\$ 91

The timing of real estate sales is a function of many factors, including:

- the general state of the economy,
- demand in local real estate markets,
- the ability to obtain entitlements,
- the ability of buyers to obtain financing,
- the number of competing properties listed for sale,
- the seasonal nature of sales (particularly in the northern states),
- the plans of adjacent landowners,
- our expectations of future price appreciation,
- the timing of harvesting activities, and
- the availability of government and not-for-profit funding (especially for conservation sales).

In any period, the average sales price per acre will vary based on the location and physical characteristics of parcels sold.

COMPARING 2018 WITH 2017

Net Sales — Unaffiliated Buyers

Net sales to unaffiliated buyers increased \$26 million — 9 percent — primarily attributable to increased acres sold, partially offset by a decrease in the average price per acre sold.

Costs of Sales

Costs of sales increased \$45 million — 41 percent — primarily attributable to an increase in acres sold, as discussed above, as well as a higher per acre basis of real estate sold due to the regional mix of properties sold.

Net Contribution to Earnings

Net contribution to earnings decreased \$19 million — 13 percent — attributable to the decrease in gross margin, discussed above.

COMPARING 2017 WITH 2016

Net Sales — Unaffiliated Buyers

Net sales to unaffiliated buyers increased \$54 million — 24 percent — primarily due to:

- a \$36 million increase in net real estate sales primarily attributable to an 18 percent increase in volume of timberlands acres sold; and
- a \$18 million increase in net energy and natural resources sales primarily attributable to the increased operations acquired during our merger with Plum Creek. Our 2017 operations include a full twelve months of combined operations as compared to ten months of combined operations in 2016. The increase is further attributable to increases in royalties.

Costs of Sales

Costs of sales decreased \$24 million — 18 percent — primarily due to the mix of properties sold in 2017 compared to 2016.

Net Contribution to Earnings

Net contribution to earnings increased \$91 million — 165 percent — primarily due to increased gross margin discussed above. Additionally, our 2016 results include a \$15 million asset impairment charge recorded for development projects. No comparable impairment charges were recorded within this segment during 2017.

WOOD PRODUCTS

HOW WE DID IN 2018

We report sales volume and annual production data for our Wood Products segment in [Our Business/What We Do/Wood Products](#).

Net Sales and Net Contribution to Earnings for Wood Products

DOLLAR AMOUNTS IN MILLIONS						
					AMOUNT OF CHANGE	
					2018	2017
					vs.	vs.
					2017	2016
	2018	2017	2016			
Net sales:						
Structural lumber	\$ 2,258	\$ 2,058	\$ 1,839	\$ 200	\$ 219	
Oriented strand board	891	904	707	(13)	\$ 197	
Engineered solid section	521	500	450	21	50	
Engineered I-joists	336	336	290	—	46	
Softwood plywood	200	176	174	24	2	
Medium density fiberboard	177	183	158	(6)	25	
Other products produced ⁽¹⁾	288	276	201	12	75	
Complementary building products	584	541	515	43	26	
Total segment sales	\$ 5,255	\$ 4,974	\$ 4,334	\$ 281	\$ 640	
Costs of sales	\$ 4,186	\$ 3,880	\$ 3,688	\$ 306	\$ 192	
Operating income and Net contribution to earnings	\$ 838	\$ 569	\$ 512	\$ 269	\$ 57	

(1) Includes wood chips and other byproducts.

COMPARING 2018 WITH 2017

Net Sales

Net sales increased \$281 million — 6 percent — primarily due to:

- \$200 million increased structural lumber sales attributable to a 9 percent increase in average sales realizations and a 1 percent increase in sales volumes;
- \$43 million increased complementary building products sales due to higher realizations;
- \$24 million increased softwood plywood sales due to a 12 percent increase in realizations;
- \$21 million increased engineered solid section attributable to an 8 percent increase in average sales realizations, partially offset by a 3 percent decrease in sales volumes; and
- \$12 million increased other products produced due to a 4 percent increase in chip sales.

These increases were partially offset by a \$13 million decrease in oriented strand board sales primarily attributable to a 5 percent decrease in sales volumes, partially offset by a 4 percent increase in average sales realizations.

As described in [Economic and Market Conditions Affecting Our Operations](#), pricing for wood products, especially within the structural lumber and oriented strand board product lines, has experienced heightened volatility during 2018. The sales realizations discussed above reflect full year averages for each period.

Costs of Sales

Costs of sales increased \$306 million — 8 percent — primarily attributable to increased log and fiber costs across all product lines in the West and Canada.

Operating Income and Net Contribution to Earnings

Operating income and net contribution to earnings increased \$269 million — 47 percent — primarily due to a \$290 million decrease in charges for product remediation. See [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) in the [Notes to Consolidated Financial Statements](#) for further detail.

This increase was partially offset by the change in gross margin, as discussed above.

COMPARING 2017 WITH 2016

Net Sales

Net sales increased \$640 million — 15 percent — primarily due to:

- a \$219 million increase in structural lumber sales, attributable to a 13 percent increase in average sales realizations, partially offset by a 1 percent decrease in sales volumes;
- a \$197 million increase in oriented strand board sales, attributable to a 26 percent increase in average sales realizations as well as a 1 percent increase in sales volumes;

- a \$75 million increase in other products produced, primarily attributable to increased chip sales. Chips were previously sold to our former Cellulose Fibers segment and were therefore considered intersegment sales until the sale of our Cellulose Fibers businesses which occurred in the second half of 2016. Upon completion of these divestitures, chips sold to those businesses were considered sales to unaffiliated customers. (Refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details regarding these divestitures.);
- a \$50 million increase in engineered solid section, primarily attributable to an 8 percent increase in sales volumes as well as a 3 percent increase in average sales realizations; and
- a \$46 million increase in engineered I-joists, primarily attributable to a 13 percent increase in sales volume as well as a 3 percent increase in average sales realizations.

Costs of Sales

Costs of sales increased \$192 million — 5 percent — primarily attributable to an overall increase in sales volumes, as discussed above. This increase was offset by the mix of products sold during 2017 compared to 2016.

Operating Income and Net Contribution to Earnings

Operating income and net contribution to earnings increased \$57 million — 11 percent — primarily due to increased gross margin, as discussed above. This was partially offset by:

- the \$290 million addition of charges (recoveries) for product remediation, net in 2017, as there were no similar charges during 2016 (refer to [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) in the [Notes to Consolidated Financial Statements](#) for further information).
- a \$68 million decrease in intersegment sales in 2017 compared to 2016, which is primarily attributable to decreased intersegment chip sales. Prior to our divestitures of our former Cellulose Fibers business, which occurred in the second half of 2016, chips sold to these businesses were considered intersegment sales. Upon completion of these divestitures, chips sold to our former Cellulose Fibers businesses were considered sales to unaffiliated customers.
- a \$7 million increase in other operating costs, net, related to countervailing and anti-dumping duties. Refer to [Softwood Lumber Agreement](#) for further information regarding these regulations.
- a \$6 million impairment on nonstrategic assets recognized during third quarter 2017. Refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#) for further detail.

UNALLOCATED ITEMS

Unallocated Items are gains or charges related to company level initiatives or previous businesses that are not allocated to our current business segments. They include a portion of items such as:

- share-based compensation,
- pension and postretirement costs,
- elimination of intersegment profit in inventory and LIFO,
- foreign exchange transaction gains and losses resulting from changes in exchange rates primarily related to our U.S. dollar denominated cash and debt balances that are held by our Canadian subsidiary,
- interest income and other, and
- legacy obligations, such as environmental remediation and workers compensation.

Net Contribution to Earnings for Unallocated Items

DOLLAR AMOUNTS IN MILLIONS				AMOUNT OF CHANGE	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Unallocated corporate function and variable compensation expense	\$ (84)	\$ (73)	\$ (87)	\$ (11)	\$ 14
Liability classified share-based compensation	10	(9)	(3)	19	(6)
Foreign exchange gain (loss)	3	1	6	2	(5)
Elimination of intersegment profit in inventory and LIFO	6	(20)	(18)	26	(2)
Charges for integration and restructuring, closures and asset impairments	—	(34)	(148)	34	114
Other	(88)	20	8	(108)	12
Operating income (loss)	\$ (153)	\$ (115)	\$ (242)	\$ (38)	\$ 127
Non-operating pension and other postretirement benefit credits (costs)	(272)	(62)	48	(210)	(110)
Interest income and other	59	39	63	20	(24)
Net contribution to earnings	\$ (366)	\$ (138)	\$ (131)	\$ (228)	\$ (7)

Unallocated Items in 2018 include:

- an increase in non-operating pension and other postretirement benefit credits (costs) primarily due to a pension settlement charge related to our U.S. qualified pension plan (refer to [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#)) — \$200 million; and
- an increase in other related to charges during first quarter 2018 for environmental remediation (refer to [Note 15: Legal Proceedings, Commitments and Contingencies](#) in the [Notes to Consolidated Financial Statements](#)) — \$28 million.

Unallocated Items in 2017 include:

- an increase in expense related to non-operating pension and other postretirement benefit credits (costs) due to a decrease in the expected return on our plan assets as well as an increase in the amortization of actuarial losses — \$110 million;
- a benefit in other primarily related to environmental remediation insurance recoveries received in 2017 — \$42 million; and
- decreased charges recognized in 2017 related to our merger with Plum Creek (refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#)) — \$112 million.

Unallocated Items in 2016 include:

- charges recognized in 2016 related to our merger with Plum Creek (refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) in the [Notes to Consolidated Financial Statements](#)) — \$146 million;
- an increase in unallocated corporate function expenses primarily as a result of retaining costs allocated to our former Cellulose Fibers segment — \$23 million; and
- a gain related to the sale of our Federal Way, Washington headquarters campus, which is recorded in other operating costs (income), net in our [Consolidated Statement of Operations](#) — \$36 million.

INTEREST EXPENSE

Our net interest expense incurred for the last three years was:

- \$375 million in 2018,
- \$393 million in 2017 and
- \$431 million in 2016.

Interest expense decreased by \$18 million in 2018 as compared to 2017 primarily due to a decrease in the average outstanding long-term and current debt balance in 2018 compared to 2017.

INCOME TAXES

As a REIT, we generally are not subject to federal corporate level income taxes on REIT taxable income that is distributed to shareholders. Historical distributions to shareholders, including amounts and tax characteristics, for the years ended December 31 are summarized in the table below.

AMOUNTS PER SHARE					
	2018		2017		2016
Preference - capital gain distribution	\$	—	\$	—	\$ 1.59
Common - capital gain distribution	\$	1.32	\$	1.25	\$ 1.24

The table below summarizes the items of tax preference for alternative minimum tax (AMT) purposes which have been apportioned to shareholders for the years ended December 31. The recently enacted Tax Cuts and Jobs Act (Tax Act) (see below) eliminated the corporate alternative minimum tax adjustment to shareholders beginning with the 2018 tax year.

AMOUNTS PER SHARE					
	2018		2017		2016
Preference - AMT	\$	—	\$	—	\$ 0.0120
Common - AMT	\$	—	\$	0.0097	\$ 0.0094

We are required to pay corporate income taxes on earnings of our TRSs, which includes our Wood Products segment and portions of our Timberlands and Real Estate & ENR segments' earnings. Our provision for income taxes is primarily driven by earnings generated by our TRSs. Overall performance results for our business segments can be found in [Results of Operations/Timberlands](#), [Results of Operations/Real Estate, Energy and Natural Resources](#), and [Results of Operations/Wood Products](#).

On December 22, 2017, H.R. 1, commonly known as the Tax Cuts and Jobs Act (Tax Act), was enacted. The Tax Act contains significant changes to corporate taxation, including the reduction of the corporate tax rate from 35 percent to 21 percent, increased deductions for capital spending and limitations on interest expense deductions. The Tax Act does not affect our REIT status or the provisions that allow us to pay capital gain dividends to our shareholders.

As a result of the reduction in the corporate tax rate, we revalued our deferred tax assets and liabilities and recorded a tax expense of \$74 million during 2017, which reduced our net deferred tax asset.

Our provision (benefit) for income taxes for our continuing operations over the last three years was:

- \$59 million in 2018,
- \$134 million in 2017 and
- \$89 million in 2016.

During 2018, we recorded a \$41 million tax benefit related to contributions made to our pension plan and deducted on our 2017 U.S. federal tax return and a \$21 million tax charge related to a tax settlement charge.

During 2017, we recorded a \$22 million tax benefit related to the repatriation of Canadian earnings.

During 2016, we recorded a \$24 million tax charge related to the repatriation of Canadian earnings.

See also [Note 21: Income Taxes](#) in [Notes to Consolidated Financial Statements](#), which outlines the major components related to our income tax provision.

LIQUIDITY AND CAPITAL RESOURCES

We are committed to maintaining an appropriate capital structure that enables us to:

- protect the interests of our shareholders and lenders and
- have access to major financial markets.

CASH FROM OPERATIONS

Consolidated net cash provided by our operations was:

- \$1,112 million in 2018,
- \$1,201 million in 2017 and
- \$735 million in 2016 (includes continuing and discontinued operations).

COMPARING 2018 WITH 2017

Net cash provided by our operations decreased \$89 million, primarily due to \$303 million increased pension and postretirement contributions and benefit payments, which is primarily related to the \$300 million voluntary contribution to our U.S. qualified pension plan in third quarter 2018 (refer to [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#) for further information).

This increased cash outflow was offset by a \$96 million decrease in cash used for product remediation efforts (refer to [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) in the [Notes to Consolidated Financial Statements](#)) as well as increased cash provided by business operations.

COMPARING 2017 WITH 2016

Net cash provided by our operations increased \$466 million, primarily due to:

- a decrease in cash paid for income taxes of \$316 million, which is primarily attributable to taxes paid in connection with our divestitures of our former Cellulose Fibers businesses during 2016;
- a decrease in cash paid for interest of \$65 million corresponding with our decreased average indebtedness during 2017 compared to 2016; and
- increased cash flows from our business segments.

These items were partially offset by:

- decreased operating cash flows from discontinued operations of \$196 million; and
- an increase of \$192 million in cash used for product remediation efforts (refer to [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) in the [Notes to Consolidated Financial Statements](#)).

Pension Contributions and Benefit Payments Made and Expected

During 2018, we contributed a total of \$381 million to our pension and postretirement plans, including a voluntary contribution of \$300 million to our U.S. qualified plan. For 2019, we expect to contribute approximately \$59 million to our pension and postretirement benefit plans. Refer to [Note 10: Pension and Other Postretirement Benefit Plans](#) in the [Notes to Consolidated Financial Statements](#) for further information.

INVESTING IN OUR BUSINESS

Cash from investing activities includes:

- acquisitions of property, equipment, timberlands and reforestation and
- proceeds from sale of assets and operations.

Consolidated net cash provided by (used in) investing activities was:

- \$(440) million in 2018,
- \$367 million in 2017 and
- \$2,559 million in 2016 (includes continuing and discontinued operations).

COMPARING 2018 WITH 2017

Net cash from investing activities decreased by \$807 million primarily due to:

- \$403 million decrease in proceeds received from the divestiture of our Uruguay operations in 2017 as there was no similar transaction in 2018 (refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details);
- \$203 million decrease in proceeds received from the sale of Southern timberlands, as there was no similar transaction in 2018 (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details);
- \$108 million decrease in proceeds received from our redeemed 21 percent ownership interest in the Twin Creeks Venture, as there was no similar transaction in 2018 (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details);
- \$57 million cash outflow for acquisitions of timberlands during 2018; and
- \$22 million decrease in proceeds received from sales of nonstrategic assets.

COMPARING 2017 WITH 2016

Net cash from investing activities decreased \$2.2 billion primarily due to:

- a \$2.1 billion decrease in net proceeds from the disposition of discontinued and other operations, primarily attributable to the proceeds received from the divestitures of our Cellulose Fibers businesses in 2016 — \$2.5 billion — compared to the proceeds received for the divestiture of our Uruguayan operations in 2017 — \$403 million (refer to [Note 4: Discontinued Operations and Other Divestitures](#) in the [Notes to Consolidated Financial Statements](#) for further details);
- a decrease of \$440 million in proceeds received for our contribution of timberlands to Twin Creeks Venture in 2016 (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details); and
- a decrease of \$78 million in proceeds from sales of nonstrategic assets.

This activity was partially offset by:

- \$311 million in combined proceeds from the sale of land in our Southern timberlands region to Twin Creeks as well as the redemption of our ownership interest in Twin Creeks, both of which occurred during fourth quarter 2017 (refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further details); and
- a \$91 million decrease in capital expenditures primarily attributable to the divestiture of our Cellulose Fibers business in 2016.

Three-Year Summary of Capital Spending by Business Segment

DOLLAR AMOUNTS IN MILLIONS					
	2018		2017		2016
Timberlands	\$	117	\$	115	\$ 116
Real Estate & ENR		—		2	1
Wood Products		306		299	297
Unallocated Items		4		3	11
Discontinued operations		—		—	85
Total	\$	427	\$	419	\$ 510

We expect our net capital expenditures for 2019 to be approximately \$400 million. The amount we spend on capital expenditures could change due to:

- future economic conditions,
- environmental regulations,
- changes in the composition of our business,
- weather and
- timing of equipment purchases.

FINANCING

Cash from financing activities includes:

- issuances and payments of debt,
- borrowings and payments under revolving lines of credit,
- proceeds from stock offerings and option exercises and
- payments for cash dividends and repurchasing stock.

Consolidated net cash used in financing activities was:

- \$1,162 million in 2018,
- \$1,420 million in 2017 and
- \$3,630 million in 2016 (includes continuing and discontinued operations).

COMPARING 2018 WITH 2017

Net cash used in financing activities decreased \$258 million in 2018, primarily due to the following:

- \$769 million decrease in cash paid for long-term debt; and
- \$425 million increase in net cash received related to borrowings on our line of credit. No borrowings on our line of credit were paid in 2018.

These were offset by the following:

- \$366 million cash used to repurchase common shares in 2018 with no similar activity in 2017;
- \$225 million cash proceeds from issuance of long-term debt received in 2017 with no similar activity in 2018;
- \$209 million payments on debt held by variable interest entities in 2018;
- \$76 million decreased cash received from exercise of stock options; and
- \$54 million increased cash used for payment of dividends.

See [Note 13: Long-Term Debt](#) in the [Notes to Consolidated Financial Statements](#) for more information about the long-term debt discussed above.

See [Note 12: Lines of Credit](#) in the [Notes to Consolidated Financial Statements](#) for more information about the line of credit discussed above.

Refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for information regarding the nonrecourse debt held by our Variable Interest Entities (VIEs).

COMPARING 2017 WITH 2016

Net cash used in financing activities decreased \$2,210 million in 2017, primarily due to:

- a decrease of \$2,003 million related to cash used to repurchase common shares during 2016; and
- a decrease of \$1,592 million in cash used for payments on long-term debt.

This activity was partially offset by a \$1,473 million decrease in cash received from the issuance of new long-term debt.

LONG-TERM DEBT

Our consolidated long-term debt (including current portion) was:

- \$5.9 billion as of December 31, 2018,
- \$6.0 billion as of December 31, 2017, and
- \$6.6 billion as of December 31, 2016.

The decrease in our long-term debt during 2018 is attributable to the payment of our \$62 million 7.00 percent debenture at maturity.

The decrease in our long-term debt during 2017 is attributable to the following activity:

- We prepaid a \$550 million variable-rate term loan during July 2017, which was originally set to mature in 2020 (2020 term loan). The 2020 term loan was repaid using available cash of \$325 million as well as borrowing proceeds from a new \$225 million variable-rate term loan set to mature in 2026.
- We paid our \$281 million 6.95 percent debenture during August 2017.

We have \$500 million of long-term debt scheduled to mature during fourth quarter 2019.

See [Note 13: Long-Term Debt](#) in the [Notes to Consolidated Financial Statements](#) for more information about the long-term debt discussed above.

Refer to [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for information regarding the nonrecourse debt held by our Variable Interest Entities (VIEs).

REVOLVING CREDIT FACILITIES

During March 2017, we entered into a \$1.5 billion five-year senior unsecured revolving credit facility that expires in March 2022. This replaced a \$1 billion senior unsecured revolving credit facility that was set to expire September 2018. Borrowings are at LIBOR plus a spread or at other interest rates mutually agreed upon between the borrower and the lending banks. As of December 31, 2018, we had \$425 million of outstanding borrowings on the revolving credit facility and had an additional \$1,075 million available. There were no borrowings outstanding as of December 31, 2017. We were in compliance with the revolving credit facility covenants as of December 31, 2018 and December 31, 2017.

Weyerhaeuser Covenants:

Key covenants related to Weyerhaeuser Company include the requirement to maintain:

- a minimum total adjusted shareholders' equity of \$3.0 billion and
- a defined debt-to-total-capital ratio of 65 percent or less.

Weyerhaeuser Company's total adjusted shareholders' equity is comprised of:

- total Weyerhaeuser shareholders' equity,
- excluding accumulated comprehensive income (loss),
- minus Weyerhaeuser Company's investment in our unrestricted subsidiaries.

Total Weyerhaeuser Company capitalization is comprised of:

- total Weyerhaeuser Company debt
- plus total adjusted shareholders' equity.

As of December 31, 2018, Weyerhaeuser Company had:

- a defined total adjusted shareholders' equity of \$9.9 billion and
- a defined debt-to-total-capital ratio of 39.09 percent.

Bank and private note agreements that were assumed by Weyerhaeuser in the merger with Plum Creek were amended to materially conform key covenants with the covenants described above.

When calculating compliance in accordance with financial debt covenants as of December 31, 2017, we excluded the full amount of accumulated other comprehensive loss of \$1,562 million. When calculating compliance in accordance with financial debt covenants as of December 31, 2018, we excluded the full amount of accumulated other comprehensive loss of \$1,152 million. See [Note 16: Shareholder's Interest](#) in the [Notes to Consolidated Financial Statements](#).

There are no other significant financial debt covenants related to our third-party debt. See [Note 12: Lines of Credit](#) in the [Notes to Consolidated Financial Statements](#) for more information.

CREDIT RATINGS

Upon completion of our merger with Plum Creek on February 19, 2016, S&P changed our long-term issuer credit ratings from BBB to BBB-. However, on May 9, 2017, S&P upgraded our long-term issuer credit ratings from BBB- back to BBB. There were no changes to our credit ratings in 2018.

OPTION EXERCISES

Our cash proceeds from the exercise of stock options were:

- \$52 million in 2018,
- \$128 million in 2017 and
- \$61 million in 2016.

Our average stock price was \$33.30, \$33.61 and \$30.01 in 2018, 2017 and 2016, respectively.

DIVIDENDS

We paid cash dividends on common shares of:

- \$995 million in 2018,
- \$941 million in 2017 and
- \$932 million in 2016.

Changes in the amount of dividends we paid were primarily due to:

- an increase in our quarterly dividend from 32 cents per share to 34 cents per share in third quarter 2018; and
- an increase in our quarterly dividend from 31 cents per share to 32 cents per share in fourth quarter 2017.

We paid cash dividends on preference shares of \$22 million in 2016. As all preference shares were converted to common shares on July 1, 2016, we did not pay any cash dividends on preference shares during 2017 or 2018. See [Note 16: Shareholder's Interest](#) in the [Notes to Consolidated Financial Statements](#) for more information. Our dividends declared on preference shares were \$79.69 cents per share in February and May 2016.

SHARE REPURCHASES

We repurchased 11 million shares for \$366 million (including transaction fees) during the year ended December 31, 2018, under the 2016 Share Repurchase Authorization. We did not repurchase shares during the year ended December 31, 2017. There were no unsettled repurchases as of December 31, 2018. For information on share repurchases during 2018, see [Note 16: Shareholders' Interest](#) in the [Notes to Consolidated Financial Statements](#).

OUR CONTRACTUAL OBLIGATIONS AND COMMERCIAL COMMITMENTS

More details about our contractual obligations and commercial commitments are in [Note 10: Pension and Other Postretirement Benefit Plans](#), [Note 13: Long-Term Debt](#), [Note 15: Legal Proceedings, Commitments and Contingencies](#) and [Note 21: Income Taxes](#) in the [Notes to Consolidated Financial Statements](#).

Significant Contractual Obligations as of December 31, 2018

DOLLAR AMOUNTS IN MILLIONS		PAYMENTS DUE BY PERIOD				
		TOTAL	LESS THAN 1 YEAR	1-3 YEARS	3-5 YEARS	MORE THAN 5 YEARS
Long-term debt obligations, including current portion (Note 13) ⁽¹⁾	\$	5,893	\$ 500	\$ 719	\$ 1,876	\$ 2,798
Borrowings on line of credit (Note 12) ⁽²⁾		425	—	—	—	—
Interest ⁽³⁾		2,684	357	634	551	1,142
Operating lease obligations		210	35	55	42	78
Purchase obligations ⁽⁴⁾		440	135	147	79	79
Employee-related obligations ⁽⁵⁾		367	127	42	28	73
Liabilities related to unrecognized tax benefits (Note 21) ⁽⁶⁾		3	—	—	—	—
Total	\$	10,022	\$ 1,154	\$ 1,597	\$ 2,576	\$ 4,170

- (1) Does not include nonrecourse debt held by our Variable Interest Entities (VIEs). See [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further information on our VIEs and the related nonrecourse debt.
- (2) Our line of credit expires in 2022, at which time all outstanding amounts must be repaid. The timing of the repayment of the current outstanding balance is uncertain. See [Note 12: Lines of Credit](#) in the [Notes to Consolidated Financial Statements](#) for further information on our line of credit.
- (3) Amounts presented for interest payments assume that all long-term debt obligations outstanding as of December 31, 2018, will remain outstanding until maturity, and interest rates on variable-rate debt in effect as of December 31, 2018, will remain in effect until maturity.
- (4) Purchase obligations include agreements to purchase goods or services that are enforceable and legally binding on the company and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations exclude arrangements that the company can cancel without penalty.
- (5) The timing of certain of these payments will be triggered by retirements or other events. These payments can include workers' compensation, deferred compensation and banked vacation, among other obligations. When the timing of payment is uncertain, the amounts are included in the total column only. Minimum pension funding is required by established funding standards and estimates are not made beyond 2019. Estimated payments of contractually obligated postretirement benefits are not included due to the uncertainty of payment timing.
- (6) We have recognized total liabilities related to unrecognized tax benefits of \$3 million as of December 31, 2018. The timing of payments related to these obligations is uncertain; however, none of this amount is expected to be paid within the next year.

OFF-BALANCE SHEET ARRANGEMENTS

Off-balance sheet arrangements have not had — and are not reasonably likely to have — a material effect on our current or future financial condition, results of operations or cash flows. [Note 9: Related Parties](#) and [Note 12: Lines of Credit](#) in the [Notes to Consolidated Financial Statements](#) contain our disclosures of:

- surety bonds,
- letters of credit and guarantees and
- information regarding variable interest entities.

ENVIRONMENTAL MATTERS, LEGAL PROCEEDINGS AND OTHER CONTINGENCIES

See [Note 15: Legal Proceedings, Commitments and Contingencies](#) in the [Notes to Consolidated Financial Statements](#).

ACCOUNTING MATTERS

CRITICAL ACCOUNTING POLICIES

In the preparation of our financial statements we follow established accounting policies and 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 are considered critical accounting policies.

In accounting, we base our judgments and estimates on:

- historical experience and
- assumptions we believe are appropriate and reasonable under current circumstances.

Actual results, however, may differ from the estimated amounts we have recorded.

Our most critical accounting policies relate to our:

- pension and postretirement benefit plans;
- potential impairments of long-lived assets; and
- legal, environmental and product liability reserves.

Details about our other significant accounting policies — what we use and how we estimate — are in [Note 1: Summary of Significant Accounting Policies](#) in the [Notes to Consolidated Financial Statements](#).

PENSION AND POSTRETIREMENT BENEFIT PLANS

We sponsor several pension and postretirement benefit plans for our employees. Key estimates we use in accounting for the plans include our:

- fair value of our plan assets,
- expected long-term rate of return on plan assets and
- discount rates.

At the end of every year, we review our key estimates with external advisers and make adjustments as appropriate. We use these estimates to calculate plan asset and liability information as of year-end as well as pension and postretirement expense for the following year. Actual experience that differs from our estimates or any changes in our estimates could have a significant effect on our financial position, results of operations and cash flows.

Fair Value of Plan Assets

Plan assets are assets of the pension plan trusts that fund the benefits provided under the pension plans. The fair value of our plan assets estimates the amount that would be received if we were to sell each asset in an orderly transaction between market participants at the reporting date. We estimate the fair value of these assets based on the information available during the year-end reporting process. In some cases, primarily private equity and hedge funds, the available information consists of net asset values as of an interim date, adjusted for known events occurring between the interim date and year-end.

We value the pension plan assets based on the observability of exit pricing inputs and classify pension plan assets based on the lowest level input that is significant to the fair value measurement of the pension plan assets in their entirety. These inputs are classified within the fair value hierarchy as follows:

- Level 1: Inputs are unadjusted quoted prices for identical assets or liabilities traded in an active market.
- Level 2: Inputs are quoted prices in non-active markets for which pricing inputs are observable either directly or indirectly at the reporting date.
- Level 3: Inputs are derived from valuation techniques in which one or more significant inputs or value drivers are unobservable.

Assets that are measured at fair value using the net asset value per share as a practical expedient are not categorized within the fair value hierarchy.

In general, we value our pension plan assets, as follows:

- cash and short-term investments are valued at cost, which approximates market;
- fixed income investments are valued at exit prices quoted in the public market;
- hedge funds, private equity funds and related fund units are valued based on the net asset value of the funds; and
- derivative instruments are valued based upon valuation statements received from each derivative's counterparty.

Assets that do not have readily available quoted prices in an active market require more judgment to value and have increased risk.

Expected Long-Term Rate of Return on Plan Assets

The expected long-term rate of return is our estimate of the long-term rate of return that our plan assets will earn. Our expected long-term rate of return is important in determining the net periodic benefit or cost we recognize for our plans.

After considering available information at the end of 2016, we determined that it was appropriate to reduce our assumption of long-term rate of return on plan assets from 9.0 percent for the year ended December 31, 2016, to 8.0 percent for the year ended December 31, 2017. This decision was based on a variety of factors, including the net compounded annual return achieved by our investment strategy and expected valuation levels in the global equity and credit markets. We continued to use an assumption of 8.0 percent for the year ended December 31, 2018.

As of the end of 2018, we have begun implementing a change in our asset strategy to an allocation that will more closely match the plan's liability profile moving forward, resulting in a larger allocation of our assets into fixed income securities. With this change, we have determined that we will further reduce our assumption of long-term rate of return on plan assets to 7.0 percent for the year ended December 31, 2019.

Factors we considered include:

- historical returns for a portfolio of assets similar to our expected allocation and
- expected future performance of similar asset classes.

Our expected long-term rate of return is important in determining the net periodic benefit or cost we recognize for our plans. Every 50 basis point decrease in our expected long-term rate of return would increase expense or reduce a credit by approximately:

- \$14 million for our U.S. qualified pension plans and
- \$4 million for our Canadian registered pension plans.

The actual return on plan assets in any given year may vary from our expected long-term rate of return. Actual returns on plan assets affect the funded status of the plans. Differences between actual returns on plan assets and the expected long-term rate of return are reflected as adjustments to accumulated other comprehensive loss, a component of total equity.

Discount Rates

The discount rate is used to estimate the net present value of our plan obligations. Our discount rates as of December 31, 2018, are:

- 4.4 percent for our U.S. pension plans — compared with 3.7 percent at December 31, 2017;
- 4.2 percent for our U.S. postretirement plans — compared with 3.5 percent at December 31, 2017;
- 3.7 percent for our Canadian pension plans — compared with 3.5 percent at December 31, 2017; and
- 3.7 percent for our Canadian postretirement plans — compared with 3.4 percent at December 31, 2017.

The discount rates are selected at the measurement date by matching current spot rates of high-quality corporate bonds with maturities similar to the timing of expected cash outflows for benefits.

Pension and postretirement benefit expenses for 2019 will be based on the 4.4 percent and 4.2 percent assumed discount rates for U.S. plans, respectively, and 3.7 percent assumed discount rates for the Canadian plans.

Our discount rates are important in determining the cost of our plans. A 50 basis point decrease in our discount rate would increase expense or reduce a credit by approximately:

- \$15 million for our U.S. qualified pension plans and
- \$5 million for our Canadian registered pension plans.

LONG-LIVED ASSETS

We review the carrying value of long-lived assets whenever an event or a change in circumstance ("a triggering event") indicates that the carrying value of the asset or asset group may not be recoverable through future operations. The carrying value is the original cost, less accumulated depreciation and any past impairments recorded. There were no significant triggering events during 2018.

If we evaluate recoverability, we are required to estimate future cash flows and residual values of the asset or asset groups. Key assumptions used in developing these estimates would include probability of alternative outcomes, product pricing, raw material costs, and product sales.

An impairment occurs when the carrying value of a long-lived asset is greater than the amount that could be recovered from the estimated future cash flows of the asset and greater than fair market value (the amount we could receive if we were to sell the asset). Key assumptions used in developing estimates of fair value would include the estimated future cash flows used to assess recoverability, discount rates, and probability of alternative outcomes.

CONTINGENT LIABILITIES

We are subject to lawsuits, investigations and other claims related to environmental, product and other matters, and are required to assess the likelihood of any adverse judgments or outcomes to these matters, as well as potential ranges of probable losses.

We record contingent liabilities when:

- it becomes probable that we will have to make payments and
- the amount of loss can be reasonably estimated.

Assessing probability of loss and estimating probable losses requires analysis of multiple factors, including:

- historical experience,
- evaluations of relevant legal and environmental regulations,
- judgments about the potential actions of third-party claimants and courts and
- consideration of potential environmental remediation methods.

In addition to contingent liabilities recorded for probable losses, we disclose contingent liabilities when there is a reasonable possibility that an ultimate loss may occur.

While we do our best in developing our projections, recorded contingent liabilities are based on the best information available and actual losses in any future period are inherently uncertain. If estimated probable future losses or actual losses exceed our recorded liability for such claims, we would record additional charges. These exposures and proceedings can be significant and the ultimate negative outcomes could be material to our operating results or cash flow in any given quarter or year. See [Note 15: Legal Proceedings, Commitments and Contingencies](#) in the [Notes to Consolidated Financial Statements](#) for more information.

PROSPECTIVE ACCOUNTING PRONOUNCEMENTS

A summary of prospective accounting pronouncements is in [Note 1: Summary of Significant Accounting Policies](#) in the [Notes to Consolidated Financial Statements](#).

PERFORMANCE MEASURES

We use Adjusted Earnings before Interest, Taxes, Depreciation, Depletion and Amortization (Adjusted EBITDA) as a key performance measure to evaluate the performance of the consolidated company and our business segments. This measure should not be considered in isolation from and is not intended to represent an alternative to our results reported in accordance with U.S. generally accepted accounting principles (U.S. GAAP). However, we believe Adjusted EBITDA provides meaningful supplemental information for our investors about our operating performance, better facilitates period to period comparisons, and is widely used by analysts, lenders, rating agencies and other interested parties. Our definition of Adjusted EBITDA may be different from similarly titled measures reported by other companies. Adjusted EBITDA, as we define it, is operating income from continuing operations adjusted for depreciation, depletion, amortization, basis of real estate sold, pension and postretirement costs not allocated to business segments (primarily interest cost, expected return on plan assets, amortization of actuarial loss and amortization of prior service cost/credit), and special items. Adjusted EBITDA excludes results from joint ventures.

Adjusted EBITDA by Segment

DOLLAR AMOUNTS IN MILLIONS				
	2018		2017	
	2018	2017	2018	2017
Timberlands	\$ 902	\$ 936	\$ 902	\$ 865
Real Estate & ENR	264	241	264	189
Wood Products	987	1,017	987	641
	2,153	2,194	2,153	1,695
Unallocated Items	(121)	(114)	(121)	(112)
Total	\$ 2,032	\$ 2,080	\$ 2,032	\$ 1,583

We reconcile Adjusted EBITDA to net earnings for the consolidated company and to operating income for the business segments, as those are the most directly comparable U.S. GAAP measures for each.

The table below reconciles Adjusted EBITDA by segment to net earnings during the year ended 2018:

DOLLAR AMOUNTS IN MILLIONS					
	TIMBERLANDS	REAL ESTATE & ENR	WOOD PRODUCTS	UNALLOCATED ITEMS	TOTAL
Net earnings					\$ 748
Interest expense, net of capitalized interest					375
Income taxes ⁽¹⁾					59
Net contribution to earnings	\$ 583	\$ 127	\$ 838	\$ (366)	\$ 1,182
Non-operating pension and other postretirement benefit costs (credits) ⁽²⁾	—	—	—	272	272
Interest income and other ⁽³⁾	—	(1)	—	(59)	(60)
Operating income	583	126	838	(153)	1,394
Depreciation, depletion and amortization	319	14	149	4	486
Basis of real estate sold	—	124	—	—	124
Special items included in operating income ⁽⁴⁾	—	—	—	28	28
Adjusted EBITDA	\$ 902	\$ 264	\$ 987	\$ (121)	\$ 2,032

(1) Income taxes include special items consisting of a \$41 million tax benefit related to our pension contribution and a \$21 million tax adjustment charge.
(2) Non-operating pension and other postretirement benefit costs (credits) include a pretax special item of a \$200 million noncash settlement charge related to our U.S. qualified pension plan lump sum offer.
(3) Interest income and other includes a pretax special item of a \$13 million gain on sale of a nonstrategic asset.
(4) Operating income for Unallocated Items includes a pretax special item consisting of a \$28 million environmental remediation expense.

The table below reconciles Adjusted EBITDA by segment to net earnings during the year ended 2017:

DOLLAR AMOUNTS IN MILLIONS					
	TIMBERLANDS	REAL ESTATE & ENR	WOOD PRODUCTS	UNALLOCATED ITEMS	TOTAL
Net earnings					\$ 582
Interest expense, net of capitalized interest					393
Income taxes					134
Net contribution to earnings	\$ 532	\$ 146	\$ 569	\$ (138)	\$ 1,109
Non-operating pension and other postretirement benefit costs (credits)	—	—	—	62	62
Interest income and other	—	(1)	—	(39)	(40)
Operating income	532	145	569	(115)	1,131
Depreciation, depletion and amortization	356	15	145	5	521
Basis of real estate sold	—	81	—	—	81
Unallocated pension service costs	—	—	—	4	4
Special items included in operating income ⁽¹⁾⁽²⁾⁽³⁾	48	—	303	(8)	343
Adjusted EBITDA	\$ 936	\$ 241	\$ 1,017	\$ (114)	\$ 2,080
<p>(1) Operating income for Timberlands includes pretax special items consisting of a \$147 million noncash impairment charge of the Uruguay operations and a \$99 million gain on a sale of Southern timberlands.</p> <p>(2) Operating income for Wood Products includes pretax special items consisting of \$290 million of product remediation charges, \$7 million for countervailing and antidumping duties on softwood lumber, and a \$6 million impairment on a nonstrategic asset.</p> <p>(3) Operating income for Unallocated Items includes pretax special items consisting of \$42 million for environmental remediation insurance recoveries and \$34 million for Plum Creek merger-related costs.</p>					

The table below reconciles Adjusted EBITDA by segment to net earnings during the year ended 2016:

DOLLAR AMOUNTS IN MILLIONS					
	TIMBERLANDS	REAL ESTATE & ENR	WOOD PRODUCTS	UNALLOCATED ITEMS	TOTAL
Net earnings					\$ 1,027
Earnings from discontinued operations, net of taxes					(612)
Interest expense, net of capitalized interest					431
Income taxes					89
Net contribution to earnings	\$ 499	\$ 55	\$ 512	\$ (131)	\$ 935
Non-operating pension and other postretirement benefit costs (credits)	—	—	—	(48)	(48)
Interest income and other	—	(2)	—	(63)	(65)
Operating income	499	53	512	(242)	822
Depreciation, depletion and amortization	366	13	129	4	512
Basis of real estate sold	—	109	—	—	109
Unallocated pension service costs	—	—	—	5	5
Special items included in operating income ⁽¹⁾⁽²⁾	—	14	—	121	135
Adjusted EBITDA	\$ 865	\$ 189	\$ 641	\$ (112)	\$ 1,583
<p>(1) Operating income for Real Estate & ENR includes pretax special items related to an asset impairment charge recorded for development projects.</p> <p>(2) Operating income for Unallocated Items includes pretax special items consisting of: \$146 million Plum Creek merger-related costs, \$36 million gain on sale of nonstrategic assets and \$11 million of legal expense.</p>					

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

LONG-TERM DEBT OBLIGATIONS

The following summary of our long-term debt obligations includes:

- scheduled principal repayments for the next five years and after,
- weighted average interest rates for debt maturing in each of the next five years and after and
- estimated fair values of outstanding obligations.

We estimate the fair value of long-term debt based on quoted market prices we received for the same types and issues of our debt or on the discounted value of the future cash flows using market yields for the same type and comparable issues of debt. Changes in market rates of interest affect the fair value of our fixed-rate debt.

SUMMARY OF LONG-TERM DEBT OBLIGATIONS AS OF DECEMBER 31, 2018

DOLLAR AMOUNTS IN MILLIONS								
	2019	2020	2021	2022	2023	THEREAFTER	TOTAL ⁽¹⁾⁽²⁾	FAIR VALUE
Fixed-rate debt	\$ 500	\$ —	\$ 719	\$ —	\$ 1,876	\$ 2,573	\$ 5,668	\$ 6,345
Average interest rate	7.38%	—%	5.57%	—%	4.91%	7.47%	6.37%	N/A
Variable-rate debt ⁽³⁾	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 225	\$ 225	\$ 225
Average interest rate	—%	—%	—%	—%	—%	4.12%	4.12%	N/A

(1) Excludes \$26 million of unamortized discounts, unamortized debt expense and fair value adjustments (related to Plum Creek merger).

(2) Does not include nonrecourse debt held by our Variable Interest Entities (VIEs). See [Note 9: Related Parties](#) in the [Notes to Consolidated Financial Statements](#) for further information on our VIEs and the related nonrecourse debt.

(3) Excludes borrowings under our line of credit of \$425 million as of December 31, 2018. Our line of credit expires in 2022, at which time all outstanding amounts must be repaid. The timing of the repayment of the current outstanding balance is uncertain. See [Note 12: Lines of Credit](#) in the [Notes to Consolidated Financial Statements](#) for further information on our line of credit.

FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
Weyerhaeuser Company:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Weyerhaeuser 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 years in the three-year period ended December 31, 2018 and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated 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 years in the three-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have 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 15, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated 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 consolidated 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 consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

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

Seattle, Washington
February 15, 2019

CONSOLIDATED STATEMENT OF OPERATIONS

FOR THE THREE-YEAR PERIOD ENDED DECEMBER 31, 2018

DOLLAR AMOUNTS IN MILLIONS, EXCEPT PER-SHARE FIGURES			
	2018	2017	2016
Net sales	\$ 7,476	\$ 7,196	\$ 6,365
Costs of sales	5,592	5,298	4,980
Gross margin	1,884	1,898	1,385
Selling expenses	88	87	89
General and administrative expenses	318	310	338
Research and development expenses	8	14	19
Charges for integration and restructuring, closures and asset impairments (Note 18)	2	194	170
Charges (recoveries) for product remediation, net (Note 19)	—	290	—
Other operating costs (income), net (Note 20)	74	(128)	(53)
Operating income	1,394	1,131	822
Non-operating pension and other postretirement benefit (costs) credits	(272)	(62)	48
Interest income and other	60	40	65
Interest expense, net of capitalized interest	(375)	(393)	(431)
Earnings from continuing operations before income taxes	807	716	504
Income taxes (Note 21)	(59)	(134)	(89)
Earnings from continuing operations	748	582	415
Earnings from discontinued operations, net of income taxes (Note 4)	—	—	612
Net earnings	748	582	1,027
Dividends on preference shares	—	—	(22)
Net earnings attributable to Weyerhaeuser common shareholders	\$ 748	\$ 582	\$ 1,005
Basic earnings per share attributable to Weyerhaeuser common shareholders (Note 6):			
Continuing operations	\$ 0.99	\$ 0.77	\$ 0.55
Discontinued operations	—	—	0.85
Net earnings per share	\$ 0.99	\$ 0.77	\$ 1.40
Diluted earnings per share attributable to Weyerhaeuser common shareholders (Note 6):			
Continuing operations	\$ 0.99	\$ 0.77	\$ 0.55
Discontinued operations	—	—	0.84
Net earnings per share	\$ 0.99	\$ 0.77	\$ 1.39
Weighted average shares outstanding (in thousands) (Note 6):			
Basic	754,556	753,085	718,560
Diluted	756,827	756,666	722,401

See accompanying [Notes to Consolidated Financial Statements](#).

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME**FOR THE THREE-YEAR PERIOD ENDED DECEMBER 31, 2018**

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Comprehensive income:			
Net earnings	\$ 748	\$ 582	\$ 1,027
Other comprehensive income (loss):			
Foreign currency translation adjustments	(54)	32	25
Changes in unamortized actuarial loss, net of tax expense (benefit) of \$235 in 2018, (\$2) in 2017 and (\$151) in 2016	733	(132)	(269)
Changes in unamortized net prior service credit, net of tax benefit of \$3 in 2018, \$2 in 2017 and \$0 in 2016	(7)	(5)	(4)
Unrealized gains on available-for-sale securities	—	2	1
Total comprehensive income	\$ 1,420	\$ 479	\$ 780

See accompanying [Notes to Consolidated Financial Statements](#).**WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K 58**

CONSOLIDATED BALANCE SHEET

DOLLAR AMOUNTS IN MILLIONS		
	DECEMBER 31, 2018	DECEMBER 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 334	\$ 824
Receivables, less discounts and allowances of \$1 and \$1	337	396
Receivables for taxes	137	14
Inventories (Note 7)	389	383
Prepaid expenses and other current assets	152	98
Current restricted financial investments held by variable interest entities (Note 9)	253	—
Total current assets	1,602	1,715
Property and equipment, less accumulated depreciation of \$3,376 and \$3,338 (Note 8)	1,857	1,618
Construction in progress	136	225
Timber and timberlands at cost, less depletion	12,671	12,954
Minerals and mineral rights, less depletion	294	308
Deferred tax assets (Note 21)	15	268
Other assets	312	356
Restricted financial investments held by variable interest entities (Note 9)	362	615
Total assets	\$ 17,249	\$ 18,059
LIABILITIES AND EQUITY		
Current liabilities:		
Current maturities of long-term debt (Notes 13 and 14)	\$ 500	\$ 62
Current debt (nonrecourse to the company) held by variable interest entities (Note 9)	302	209
Borrowings on line of credit (Note 12 and 14)	425	—
Accounts payable	222	249
Accrued liabilities (Note 11)	490	645
Total current liabilities	1,939	1,165
Long-term debt (Notes 13 and 14)	5,419	5,930
Long-term debt (nonrecourse to the company) held by variable interest entities (Note 9)	—	302
Deferred tax liabilities	43	—
Deferred pension and other postretirement benefits (Note 10)	527	1,487
Other liabilities	275	276
Commitments and contingencies (Note 15)		
Total liabilities	8,203	9,160
Equity:		
Weyerhaeuser shareholders' interest (Notes 16 and 17):		
Common shares: \$1.25 par value; authorized 1,360 million shares; issued and outstanding: 746,391 thousand shares at December 31, 2018 and 755,223 thousand shares at December 31, 2017	933	944
Other capital	8,172	8,439
Retained earnings	1,093	1,078
Accumulated other comprehensive loss (Note 16)	(1,152)	(1,562)
Total equity	9,046	8,899
Total liabilities and equity	\$ 17,249	\$ 18,059

See accompanying [Notes to Consolidated Financial Statements](#).

CONSOLIDATED STATEMENT OF CASH FLOWS
FOR THE THREE-YEAR PERIOD ENDED DECEMBER 31, 2018

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Cash flows from operations:			
Net earnings	\$ 748	\$ 582	\$ 1,027
Noncash charges (credits) to income:			
Depreciation, depletion and amortization	486	521	565
Basis of real estate sold	124	81	109
Deferred income taxes, net	72	44	(159)
Pension and other postretirement benefits	309	97	5
Share-based compensation expense (Note 17)	42	40	60
Charges for impairment of assets	1	154	37
Net gains on disposition of discontinued and other operations (Note 4)	—	(1)	(789)
Net gains on sale of nonstrategic assets	(16)	(16)	(73)
Net gains on sale of southern timberlands (Note 9)	—	(99)	—
Change in, net of acquisition:			
Receivables, less allowances	62	(35)	(54)
Receivable and payable for taxes	(103)	(50)	106
Inventories	(14)	(39)	61
Prepaid expenses and other current assets	(18)	(12)	5
Accounts payable and accrued liabilities	(154)	106	11
Pension and postretirement contributions / benefit payments	(381)	(78)	(99)
Other	(46)	(94)	(77)
Net cash from operations	1,112	1,201	735
Cash flows from investing activities:			
Capital expenditures for property and equipment	(368)	(358)	(451)
Capital expenditures for timberlands reforestation	(59)	(61)	(59)
Proceeds from disposition of discontinued and other operations (Note 4)	—	403	2,486
Proceeds from sale of nonstrategic assets	4	26	104
Proceeds from sale of southern timberlands (Note 9)	—	203	—
Proceeds from redemption of ownership in related party (Note 9)	—	108	—
Proceeds from contribution of timberlands to related party (Note 9)	—	—	440
Other	(17)	46	39
Net cash from investing activities	(440)	367	2,559
Cash flows from financing activities:			
Cash dividends on common shares	(995)	(941)	(932)
Cash dividends on preference shares	—	—	(22)
Proceeds from issuance of long-term debt (Note 13)	—	225	1,698
Payments on long-term debt (Note 13)	(62)	(831)	(2,423)
Proceeds from borrowings on line of credit (Note 12)	425	100	—
Payments on line of credit (Note 12)	—	(100)	—
Payments on debt held by variable interest entities (Note 9)	(209)	—	—
Proceeds from exercise of stock options	52	128	61
Repurchase of common shares (Note 16)	(366)	—	(2,003)
Other	(7)	(1)	(9)
Net cash from financing activities	(1,162)	(1,420)	(3,630)
Net change in cash and cash equivalents	\$ (490)	\$ 148	\$ (336)
Cash and cash equivalents from continuing operations at beginning of year	\$ 824	\$ 676	\$ 1,011
Cash and cash equivalents from discontinued operations at beginning of year	\$ —	\$ —	\$ 1
Cash and cash equivalents at beginning of year	\$ 824	\$ 676	\$ 1,012
Cash and cash equivalents from continuing operations at end of year	\$ 334	\$ 824	\$ 676
Cash and cash equivalents from discontinued operations at end of year	\$ —	\$ —	\$ —
Cash and cash equivalents at end of year	\$ 334	\$ 824	\$ 676
Cash paid (received) during the year for:			
Interest, net of amounts capitalized of \$9 in 2018, \$9 in 2017, and \$8 in 2016	\$ 358	\$ 381	\$ 446
Income taxes	\$ 95	\$ 169	\$ 485

See accompanying [Notes to Consolidated Financial Statements](#).

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

FOR THE THREE-YEAR PERIOD ENDED DECEMBER 31, 2018

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Mandatory convertible preference shares, series A:			
Balance at beginning of year	\$ —	\$ —	\$ 14
Conversion to common shares (Note 16)	—	—	(14)
Balance at end of year	\$ —	\$ —	\$ —
Common shares:			
Balance at beginning of year	\$ 944	\$ 936	\$ 638
Preference shares converted to common shares (Note 16)	—	—	29
Issued for exercise of stock options	3	7	3
Repurchases of common shares (Note 16)	(15)	—	(85)
Release of vested restricted stock units	1	1	2
Plum Creek acquisition	—	—	349
Balance at end of year	\$ 933	\$ 944	\$ 936
Other capital:			
Balance at beginning of year	\$ 8,439	\$ 8,282	\$ 4,080
Issued for exercise of stock options	49	128	61
Repurchase of common shares (Note 16)	(351)	—	(1,918)
Share-based compensation	42	35	35
Plum Creek acquisition	—	—	6,046
Other transactions, net	(7)	(6)	(22)
Balance at end of year	\$ 8,172	\$ 8,439	\$ 8,282
Retained earnings:			
Balance at beginning of year	\$ 1,078	\$ 1,421	\$ 1,349
Net earnings	748	582	1,027
Dividends on common shares	(995)	(944)	(933)
Adjustments related to new accounting pronouncements (Note 1)	262	19	—
Cash dividends on preference shares	—	—	(22)
Balance at end of year	\$ 1,093	\$ 1,078	\$ 1,421
Accumulated other comprehensive loss:			
Balance at beginning of year	\$ (1,562)	\$ (1,459)	\$ (1,212)
Annual changes – net of tax:			
Foreign currency translation adjustments	(54)	32	25
Changes in unamortized actuarial loss, net of tax (Note 10)	733	(132)	(269)
Changes in unamortized net prior service credit, net of tax (Note 10)	(7)	(5)	(4)
Unrealized gains on available-for-sale securities	—	2	1
Adjustments related to new accounting pronouncements (Note 16)	(262)	—	—
Balance at end of year	\$ (1,152)	\$ (1,562)	\$ (1,459)
Total equity:			
Balance at end of year	\$ 9,046	\$ 8,899	\$ 9,180
Dividends paid per common share	\$ 1.32	\$ 1.25	\$ 1.24

See accompanying [Notes to Consolidated Financial Statements](#).

INDEX FOR NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1:	SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES	63
NOTE 2:	BUSINESS SEGMENTS	67
NOTE 3:	REVENUE RECOGNITION	68
NOTE 4:	DISCONTINUED OPERATIONS AND OTHER DIVESTITURES	70
NOTE 5:	MERGER WITH PLUM CREEK	72
NOTE 6:	NET EARNINGS PER SHARE	72
NOTE 7:	INVENTORIES	73
NOTE 8:	PROPERTY AND EQUIPMENT	74
NOTE 9:	RELATED PARTIES	74
NOTE 10:	PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS	76
NOTE 11:	ACCRUED LIABILITIES	84
NOTE 12:	LINES OF CREDIT	84
NOTE 13:	LONG-TERM DEBT	85
NOTE 14:	FAIR VALUE OF FINANCIAL INSTRUMENTS	86
NOTE 15:	LEGAL PROCEEDINGS, COMMITMENTS AND CONTINGENCIES	86
NOTE 16:	SHAREHOLDERS' INTEREST	88
NOTE 17:	SHARE-BASED COMPENSATION	90
NOTE 18:	CHARGES FOR INTEGRATION AND RESTRUCTURING, CLOSURES AND ASSET IMPAIRMENTS	95
NOTE 19:	CHARGES (RECOVERIES) FOR PRODUCT REMEDIATION, NET	95
NOTE 20:	OTHER OPERATING COSTS (INCOME), NET	95
NOTE 21:	INCOME TAXES	96
NOTE 22:	GEOGRAPHIC AREAS	99
NOTE 23:	SELECTED QUARTERLY FINANCIAL INFORMATION (unaudited)	100

WEYERHAEUSER COMPANY > 2018 ANNUAL REPORT AND FORM 10-K 62

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Our significant accounting policies describe:

- our election to be taxed as a real estate investment trust,
- how we report our results,
- changes in how we report our results and
- how we account for various items.

OUR ELECTION TO BE TAXED AS A REAL ESTATE INVESTMENT TRUST (REIT)

Starting with our 2010 fiscal year, we elected to be taxed as a REIT. REIT income can be distributed to shareholders without first paying corporate level tax, substantially eliminating the double taxation on income. We expect to derive most of our REIT income from investments in timberlands, including the sale of standing timber through pay-as-cut sales contracts and lump sum timber deeds.

We were no longer subject to the REIT built-in gains tax as of December 31, 2014. Our built-in gains tax period expired in 2015 due to a change in U.S. tax law that statutorily shortened the built-in gains tax period to 5 years from 10 years. This means we are no longer subject to federal corporate level income taxes on sales of REIT property that had a fair market value in excess of tax basis when we converted to a REIT on January 1, 2010. We continue to be required to pay federal corporate income taxes on earnings of our Taxable REIT Subsidiary (TRS), which includes our Wood Products segment and portions of our Timberlands and Real Estate, Energy and Natural Resources (Real Estate & ENR) segments.

HOW WE REPORT OUR RESULTS

Our report includes:

- consolidated financial statements,
- our business segments,
- estimates,
- fair value measurements and
- foreign currency translation.

Consolidated Financial Statements

Our consolidated financial statements provide an overall view of our results and financial condition. They include our accounts and the accounts of entities that we control, including:

- majority-owned domestic and foreign subsidiaries and
- variable interest entities in which we are the primary beneficiary.

They do not include our intercompany transactions and accounts, which are eliminated.

Throughout these Notes to Consolidated Financial Statements, unless specified otherwise, references to "Weyerhaeuser," "the company," "we" and "our" refer to the consolidated company.

Our Business Segments

Reportable business segments are determined based on the company's "management approach," as defined by Financial Accounting Standards Board (FASB) ASC 280, "Segment Reporting." The management approach is based on the way the chief operating decision maker organizes the segments within a company for making decisions about resources to be allocated and assessing their performance.

We are principally engaged in:

- growing and harvesting timber;
- manufacturing, distributing and selling products made from trees;
- maximizing the value of every acre we own through the sale of higher and better use (HBU) properties; and
- monetizing reserves of minerals, oil, gas, coal, and other natural resources on our timberlands.

Our business segments are organized based primarily on products and services.

Our Business Segments and Products

SEGMENT	PRODUCTS AND SERVICES
Timberlands	Logs, timber and leased recreational access
Real Estate & ENR	Sales of timberlands, rights to explore for and extract hard minerals, construction materials, oil and gas production, wind, solar and coal
Wood Products	Softwood lumber, engineered wood products, structural panels, medium density fiberboard and building materials distribution

We also transfer raw materials, semi-finished materials and end products among our business segments. Because of this intracompany activity, accounting for our business segments involves pricing products transferred between our business segments at current market values.

Unallocated Items are gains or charges related to company level initiatives or previous businesses that are not allocated to our current business segments. They include a portion of items such as share-based compensation; pension and postretirement costs; elimination of intersegment profit in inventory and LIFO; foreign exchange transaction gains and losses resulting from changes in exchange rates primarily related to our U.S. dollar denominated cash and debt balances that are held by our Canadian subsidiary; interest income and other and legacy obligations such as environmental remediation and workers compensation.

Estimates

We prepare our financial statements according to U.S. generally accepted accounting principles (U.S. GAAP). This requires us to make estimates and assumptions during our reporting periods and at the date of our financial statements. The estimates and assumptions affect our:

- reported amounts of assets, liabilities and equity;
- disclosure of contingent assets and liabilities; and
- reported amounts of revenues and expenses.

While we do our best in preparing these estimates, actual results can and do differ from those estimates and assumptions.

Fair Value Measurements

We use a fair value hierarchy in accounting for certain nonfinancial assets and liabilities including:

- long-lived assets (asset groups) measured at fair value for an impairment assessment;
- pension plan assets measured at fair value; and
- asset retirement obligations initially measured at fair value.

The fair value hierarchy is based on inputs to valuation techniques that are used to measure fair value that are either observable or unobservable. Observable inputs reflect assumptions market participants would use in pricing an asset or liability based on market data obtained from independent sources while unobservable inputs reflect a reporting entity's pricing based upon its own market assumptions.

The fair value hierarchy consists of the following three levels:

- Level 1: Inputs are unadjusted quoted prices for identical assets or liabilities traded in an active market.
- Level 2: Inputs are quoted prices in non-active markets for which pricing inputs are observable either directly or indirectly at the reporting date.
- Level 3: Inputs are derived from valuation techniques in which one or more significant inputs or value drivers are unobservable.

Foreign Currency Translation

Local currencies are the functional currencies for most of our operations outside the U.S. We translate foreign currencies into U.S. dollars in two ways:

- assets and liabilities — at the exchange rates in effect as of our balance sheet date; and
- revenues and expenses — at average monthly exchange rates throughout the year.

CHANGES IN HOW WE REPORT OUR RESULTS

Changes in how we report our results come from:

- reclassification of certain balances and results from prior years to make them consistent with our current reporting and
- accounting changes made upon our adoption of new accounting guidance

Reclassifications

We have reclassified certain balances and results from prior years to be consistent with our 2018 reporting. This makes year-to-year comparisons easier. Our reclassifications had no effect on consolidated net earnings or equity.

New Accounting Pronouncements

Lease Recognition

In February 2016, the FASB issued Accounting Standards Update (ASU) 2016-02, which requires lessees to recognize assets and liabilities for the rights and obligations created by those leases and requires leases to be recognized on the balance sheet. The new guidance is effective for fiscal years beginning after December 15, 2018, and early adoption is permitted.

We adopted this standard on January 1, 2019, using the modified retrospective transition approach at the beginning of the adoption period through a cumulative-effect adjustment to retained earnings. With this adoption approach, financial information will not be updated and disclosures required under the new standard will not be provided for dates and periods before January 1, 2019. In addition, the standard provides a number of optional practical expedients in transition. The adoption resulted in the recognition of additional right-of-use assets and lease liabilities for operating leases of less than 2 percent of our total assets on our [Consolidated Balance Sheet](#). These leases are primarily related to vehicles, equipment, office and warehouse leases disclosed in [Note 15: Legal Proceedings, Commitments and Contingencies](#).

Reclassification of Certain Amounts from Accumulated Other Comprehensive Loss

In February 2018, the FASB issued ASU 2018-02, which allows for the reclassification of certain income tax effects related to the Tax Cuts and Jobs Act (Tax Act) between "Accumulated other comprehensive loss" and "Retained earnings." This ASU provides that adjustments to deferred tax liabilities and assets related to a change in tax laws be included in "Income from continuing operations", even in situations where the related items were originally recognized in "Other comprehensive income (loss)." The amendments in this ASU are effective for all entities for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption permitted. Adoption of this ASU is to be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the tax laws was recognized. We adopted this ASU during first quarter 2018 using the period of adoption method, which resulted in a reclassification of \$253 million from "Accumulated other comprehensive loss" to "Retained earnings" on our [Consolidated Balance Sheet](#) due to changes in federal statutory and effective state rates. In general, tax effects unrelated to the Tax Act are released from accumulated other comprehensive loss using the portfolio approach.

In January 2016, the FASB issued ASU 2016-01, which updates certain aspects of recognition, measurement, presentation and disclosure of financial instruments. We adopted ASU 2016-01 in first quarter 2018, which resulted in a reclassification of accumulated unrealized gains on available-for-sale securities of \$9 million from "Accumulated other comprehensive loss" to "Retained earnings" on our [Consolidated Balance Sheet](#).

Revenue Recognition

In May 2014, the FASB issued ASU 2014-09, a comprehensive new revenue recognition model that requires an entity to recognize revenue to depict the transfer of goods or services to customers at an amount that reflects the consideration it expects to receive in exchange for those goods or services. In August 2015, FASB issued ASU 2015-14, which deferred the effective date for an additional year. In March 2016, FASB issued ASU 2016-08, which does not change the core principle of the guidance; however, it does clarify the implementation guidance on principal versus agent considerations. In April 2016, FASB issued ASU 2016-10, which clarifies two aspects of ASU 2014-09: identifying performance obligations and the licensing implementation guidance. In May 2016, FASB issued ASU 2016-12, which amends ASU 2014-09 to provide improvements and practical expedients to the new revenue recognition model. In December 2016, the FASB issued ASU 2016-20, which amends ASU 2014-09 for technical corrections and to correct for unintended application of the guidance. In February 2017, FASB issued ASU 2017-05, which clarifies the scope of ASC 610-20 and affects accounting for partial sales of nonfinancial assets.

We adopted this accounting standard update on January 1, 2018. The new standard is required to be applied retrospectively to each prior reporting period presented (full retrospective transition method) or retrospectively with the cumulative effect of initially applying it recognized at the date of initial application (cumulative effect method). We have adopted using the cumulative effect method. The adoption of the new revenue recognition guidance does not materially affect our [Consolidated Statement of Operations](#), [Consolidated Balance Sheet](#), or [Consolidated Statement of Cash Flows](#).

HOW WE ACCOUNT FOR VARIOUS ITEMS

This section provides information about how we account for certain key items related to:

- capital investments,
- financing our business and
- operations.

ITEMS RELATED TO CAPITAL INVESTMENTS

Key items related to accounting for capital investments pertain to property and equipment, timber and timberlands, impairment of long-lived assets and goodwill.

Property and Equipment

We maintain property accounts on an individual asset basis. Here is how we handle major items:

- Improvements to and replacements of major units of property are capitalized.
- Maintenance, repairs and minor replacements are expensed.
- Depreciation is calculated using a straight-line method at rates based on estimated service lives.
- We capitalize costs associated with logging roads that we intend to utilize for a period longer than one year. These roads are then amortized over an estimated service life.
- Cost and accumulated depreciation of property sold or retired are removed from the accounts and the gain or loss is included in earnings.

Timber and Timberlands

We carry timber and timberlands at cost less depletion. Depletion refers to the carrying value of timber that is harvested, lost as a result of casualty or sold.

Key activities affecting how we account for timber and timberlands include:

- reforestation,
- depletion and
- forest management in Canada.

Reforestation. Generally, we capitalize initial site preparation and planting costs as reforestation. Generally, we expense costs after the first planting as they are incurred or over the period of expected benefit. These costs include:

- fertilization,
- vegetation and insect control,
- pruning and precommercial thinning,
- property taxes and
- interest.

Accounting practices for these costs do not change when timber becomes merchantable and harvesting starts.

Timber depletion. To determine depletion rates, we divide the net carrying value of timber by the related volume of timber estimated to be available over the growth cycle. To determine the growth cycle volume of timber, we consider:

- regulatory and environmental constraints,
- our management strategies,
- inventory data improvements,
- growth rate revisions and recalibrations and
- known dispositions and inoperable acres.

In addition, the duration of the harvest cycle varies by geographic region and species of timber.

Depletion rate calculations do not include estimates for:

- future silviculture or sustainable forest management costs associated with existing stands
- future reforestation costs associated with a stand's final harvest; and
- future volume in connection with the replanting of a stand subsequent to its final harvest

We include the cost of timber harvested in the carrying values of raw materials and product inventories. As these inventories are sold to third parties, we include them in the Costs of sales.

Forest Management in Canada. We manage timberlands under long-term licenses in various Canadian provinces that are:

- granted by the provincial governments;
- granted for initial periods of 15 to 25 years; and
- renewable provided we meet reforestation, operating and management guidelines.

Calculation of the fees we pay on the timber we harvest:

- varies from province to province,
- is tied to product market pricing and
- depends upon the allocation of land management responsibilities in the license.

Impairment of Long-Lived Assets

We review the carrying value of long-lived assets whenever an event or a change in circumstance ("a triggering event") indicates that the carrying value of the asset or asset group may not be recoverable through future operations. The carrying value is the original cost, less accumulated depreciation and any past impairments recorded. Impaired assets held for use are written down to fair value. Impaired assets held for sale are written down to fair value less cost to sell. We determine fair value based on:

- appraisals,
- market pricing of comparable assets,
- discounted value of estimated cash flows from the asset and
- replacement values of comparable assets.

ITEMS RELATED TO FINANCING OUR BUSINESS

Key items related to financing our business include financial instruments, cash and cash equivalents, accounts payable and concentration of risk.

Financial Instruments

We estimate the fair value of financial instruments where appropriate. The assumptions we use — including the discount rate and estimates of cash flows — can significantly affect our fair-value amounts. Our fair values are estimates and may not match the amounts we would realize upon sale or settlement of our financial positions.

Cash Equivalents

Cash equivalents are investments with original maturities of 90 days or less. We state cash equivalents at cost, which approximates market.

Accounts Payable

Our banking system replenishes our major bank accounts daily as checks we have issued are presented for payment. As a result, we may have negative book cash balances due to outstanding checks that have not yet been paid by the bank. These negative balances would be included in "Accounts payable" on our [Consolidated Balance Sheet](#). Changes in these negative cash balances would be reported as financing activities in our [Consolidated Statement of Cash Flows](#). We had no negative book cash balances as of December 31, 2018, and December 31, 2017.

Concentration of Risk

We disclose customers that represent a concentration of risk. As of December 31, 2018, and December 31, 2017, no customer accounted for 10 percent or more of our net sales.

ITEMS RELATED TO OPERATIONS

Key items related to operations include revenue recognition, inventories, shipping and handling costs, income taxes, pension and other postretirement plans and environmental remediation.

Revenue Recognition

Refer to [Note 3: Revenue Recognition](#) for detail on how we account for revenue.

Inventories

We state inventories at the lower of cost or net realizable value. Cost includes labor, materials and production overhead. LIFO — the last-in, first-out method — applies to major inventory products held at our U.S. domestic locations. We began to use the LIFO method for domestic products in the 1940s as required to conform with the tax method elected. Subsequent acquisitions of entities added new products under the FIFO — the first-in, first-out method — or moving average cost methods that have continued under those methods. The FIFO or moving average cost methods applies to the balance of our domestic raw material and product inventories as well as for all material and supply inventories and all foreign inventories.

Shipping and Handling Costs

We classify shipping and handling costs in "Costs of sales" on our [Consolidated Statement of Operations](#).

Income Taxes

We account for income taxes under the asset and liability method. Unrecognized tax benefits represent potential future funding obligations to taxing authorities if uncertain tax positions the company has taken on previously filed tax returns are not sustained. In accordance with the company's accounting policy, accrued interest and penalties related to unrecognized tax benefits are recognized as a component of income tax expense.

We recognize deferred tax assets and liabilities to reflect:

- future tax consequences due to differences between the carrying amounts for financial reporting purposes and the tax bases of certain items and
- operating loss and tax credit carryforwards.

To measure deferred tax assets and liabilities, we:

- determine when the differences between the carrying amounts and tax bases of affected items are expected to be recovered or resolved and
- use enacted tax rates expected to apply to taxable income in those years.

Pension and Other Postretirement Benefit Plans

We recognize the overfunded or underfunded status of our defined benefit pension and other postretirement plans on our [Consolidated Balance Sheet](#) and recognize changes in the funded status through comprehensive income (loss) in the year in which the changes occur.

Actuarial valuations determine the amount of the pension and other postretirement benefit obligations and the net periodic benefit cost we recognize. The net periodic benefit cost includes:

- cost of benefits provided in exchange for employees' services rendered during the year;
- interest cost of the obligations;
- expected long-term return on plan assets;
- gains or losses on plan settlements and curtailments;
- amortization of prior service costs and plan amendments over the average remaining service period of the active employee group covered by the plans or the average remaining life expectancy in situations where the plan participants affected by the plan amendment are inactive; and
- amortization of cumulative unrecognized net actuarial gains and losses — generally in excess of 10 percent of the greater of the benefit obligation or market-related value of plan assets at the beginning of the year — over the average remaining service period of the active employee group covered by the plans or the average remaining life expectancy in situations where the plan participants are inactive.

Pension plans. We have defined benefit pension plans covering approximately half of our employees. Determination of benefits differs for salaried, hourly and union employees, as follows:

- Salaried employee benefits are based on each employee's highest monthly earnings for five consecutive years during the final 10 years before retirement.
- Hourly and union employee benefits generally are stated amounts for each year of service.
- Union employee benefits are set through collective-bargaining agreements.

We contribute to our U.S. and Canadian pension plans according to established funding standards. The funding standards for the plans are:

- U.S. pension plans — according to the Employee Retirement Income Security Act of 1974; and
- Canadian pension plans — according to the applicable provincial pension act and the Income Tax Act.

Postretirement benefits other than pensions. We provide certain postretirement health care and life insurance benefits for some retired employees. In some cases, we pay a portion of the cost of the benefit. [Note 10: Pension and Other Postretirement Benefit Plans](#) provides additional information about changes made in our postretirement benefit plans during 2018 and 2017.

Environmental Remediation

We accrue losses associated with environmental remediation obligations when such losses are probable and reasonably estimable. Future expenditures for environmental remediation obligations are not discounted to their present value. Recoveries of environmental remediation costs from other parties are recorded as assets when the recovery is deemed probable and does not exceed the amount of losses previously recorded.

NOTE 2: BUSINESS SEGMENTS

Our business segments and how we account for those segments are discussed in [Note 1: Summary of Significant Accounting Policies](#). This note provides key financial data by business segment.

KEY FINANCIAL DATA BY BUSINESS SEGMENT

Sales and Contribution (Charge) to Earnings

DOLLAR AMOUNTS IN MILLIONS						
	TIMBERLANDS	REAL ESTATE & ENR	WOOD PRODUCTS	UNALLOCATED ITEMS ⁽¹⁾ AND INTERSEGMENT ELIMINATIONS	CONSOLIDATED	
Sales to unaffiliated customers						
2018	\$ 1,915	\$ 306	\$ 5,255	\$ —	\$ 7,476	
2017	\$ 1,942	\$ 280	\$ 4,974	\$ —	\$ 7,196	
2016	\$ 1,805	\$ 226	\$ 4,334	\$ —	\$ 6,365	
Intersegment sales						
2018	\$ 802	\$ 1	\$ —	\$ (803)	\$ —	
2017	\$ 762	\$ 1	\$ —	\$ (763)	\$ —	
2016	\$ 840	\$ 1	\$ 68	\$ (909)	\$ —	
Contribution (charge) to earnings from continuing operations						
2018	\$ 583	\$ 127	\$ 838	\$ (366)	\$ 1,182	
2017	\$ 532	\$ 146	\$ 569	\$ (138)	\$ 1,109	
2016	\$ 499	\$ 55	\$ 512	\$ (131)	\$ 935	
(1) Unallocated items are gains or charges not related to or allocated to an individual operating segment. They include a portion of items such as share-based compensation expense, pension and postretirement costs, foreign exchange transaction gains and losses, interest income and other, and the elimination of intersegment profit in inventory and LIFO.						

Management evaluates segment performance based on the contributions to earnings of the respective segments. An analysis and reconciliation of our business segment information to the consolidated financial statements follows:

Reconciliation of Contribution to Earnings to Net Earnings

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Net contribution to earnings from continuing operations	\$ 1,182	\$ 1,109	\$ 935
Net contribution to earnings from discontinued operations	—	—	957
Total contribution to earnings	1,182	1,109	1,892
Interest expense, net of capitalized interest ⁽¹⁾	(375)	(393)	(436)
Income before income taxes ⁽¹⁾	807	716	1,456
Income taxes ⁽¹⁾	(59)	(134)	(429)
Net earnings	\$ 748	\$ 582	\$ 1,027

(1) Results shown for 2016 include amounts for both continuing and discontinued operations. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) for further information.

Additional Financial Information

DOLLAR AMOUNTS IN MILLIONS					
	TIMBERLANDS	REAL ESTATE & ENR	WOOD PRODUCTS	UNALLOCATED ITEMS	CONSOLIDATED
Depreciation, depletion and amortization					
2018	\$ 319	\$ 14	\$ 149	\$ 4	\$ 486
2017	\$ 356	\$ 15	\$ 145	\$ 5	\$ 521
2016	\$ 366	\$ 13	\$ 129	\$ 4	\$ 512
Charges for integration and restructuring, closures and asset impairments ⁽¹⁾					
2018	\$ —	\$ —	\$ 2	\$ —	\$ 2
2017	\$ 147	\$ —	\$ 13	\$ 34	\$ 194
2016	\$ —	\$ 15	\$ 7	\$ 148	\$ 170
Capital expenditures					
2018	\$ 117	\$ —	\$ 306	\$ 4	\$ 427
2017	\$ 115	\$ 2	\$ 299	\$ 3	\$ 419
2016	\$ 116	\$ 1	\$ 297	\$ 11	\$ 425

(1) See [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#) for more information.

Total Assets

DOLLAR AMOUNTS IN MILLIONS				
	TIMBERLANDS and REAL ESTATE & ENR ⁽¹⁾	WOOD PRODUCTS	UNALLOCATED ITEMS	CONSOLIDATED
Total assets				
2018	\$ 13,838	\$ 2,234	\$ 1,177	\$ 17,249
2017	\$ 14,122	\$ 2,145	\$ 1,792	\$ 18,059

(1) Assets attributable to the Real Estate & ENR business segment are combined with total assets for the Timberlands segment as we do not produce separate balance sheets internally.

DISCONTINUED OPERATIONS

During 2016, we disposed of our former Cellulose Fibers segment, which is excluded from the segment results above unless otherwise noted. See [Note 4: Discontinued Operations and Other Divestitures](#) for information regarding our discontinued operations and the segments affected.

NOTE 3: REVENUE RECOGNITION

A majority of our revenue is derived from sales of delivered logs and manufactured wood products. We account for revenue in accordance with ASC Topic 606, *Revenue from Contracts with Customers*, which we adopted on January 1, 2018, using the cumulative effect method. The adoption of the new revenue recognition guidance did not materially affect our [Consolidated Statement of Operations](#), [Consolidated Balance Sheet](#), or [Consolidated Statement of Cash Flows](#).

PERFORMANCE OBLIGATIONS

A performance obligation, as defined in ASC Topic 606, is a promise in a contract to transfer a distinct good or service to a customer. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue at the point in time, or over the period, in which the performance obligation is satisfied.

Performance obligations associated with delivered log sales are typically satisfied when the logs are delivered to our customers' mills or delivered to an ocean vessel in the case of export sales. Performance obligations associated with the sale of wood products are typically satisfied when the products are shipped. The company has elected, as an accounting policy, to treat shipping and handling that is performed after a customer obtains control of the product as an activity required to fulfill the promise to transfer the good; therefore we will not evaluate this requirement as a separate performance obligation.

Customers are generally invoiced shortly after logs are delivered or after wood products are shipped, with payment generally due within a month or less of the invoice date. ASC Topic 606 requires entities to consider significant financing components of contracts with customers, though allows for the use of a practical expedient when the period between satisfaction of a performance obligation and payment receipt is one year or less. Given the nature of our revenue transactions, we have elected to utilize this practical expedient.

Performance obligations associated with real estate sales are generally met when placed into escrow and all conditions of closing have been satisfied.

CONTRACT ESTIMATES

Substantially all of the company's performance obligations are satisfied as of a point in time. Therefore, there is little judgment in determining when control transfers for our business segments as described above.

The transaction price for log sales generally equals the amount billed to our customer for logs delivered during the accounting period. For the limited number of log sales subject to a long-term supply agreement, the transaction price is variable but is known at the time of billing. For wood products sales, the transaction price is generally the amount billed to the customer for the products shipped but may be reduced slightly for estimated cash discounts and rebates.

There are no significant contract estimates related to the real estate business.

CONTRACT BALANCES

In general, customers are billed and a receivable is recorded as we ship and/or deliver wood products and logs. We generally receive payment shortly after products have been received by our customers. Contract asset and liability balances are immaterial.

For real estate sales, the company receives the entire consideration in cash at closing.

MAJOR PRODUCTS

A Reconciliation of Revenue Recognized by our Major Products:

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Net Sales to Unaffiliated Customers:			
Timberlands Segment			
Delivered logs ⁽¹⁾ :			
West			
Domestic sales	503	473	410
Export sales	484	442	455
Subtotal West	987	915	865
South	625	616	566
North	99	95	91
Other	41	59	38
Subtotal delivered logs sales	1,752	1,685	1,560
Stumpage and pay-as-cut timber	59	73	85
Recreational and other lease revenue	59	59	44
Other ⁽²⁾	45	125	116
Net Sales attributable to Timberlands Segment	1,915	1,942	1,805
Real Estate & ENR Segment			
Real estate	229	208	172
Energy and natural resources	77	72	54
Net sales attributable to Real Estate & ENR Segment	306	280	226
Wood Products Segment			
Structural lumber	2,258	2,058	1,839
Oriented strand board	891	904	707
Engineered solid section	521	500	450
Engineered I-joists	336	336	290
Softwood plywood	200	176	174
Medium density fiberboard	177	183	158
Complementary building products	584	541	515
Other ⁽³⁾	288	276	201
Net sales attributable to Wood Products Segment	5,255	4,974	4,334
Total	\$ 7,476	\$ 7,196	\$ 6,365

(1) The West region includes Washington and Oregon. The South region includes Virginia, North Carolina, South Carolina, Florida, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Texas and Oklahoma. The North region includes West Virginia, Maine, New Hampshire, Vermont, Michigan, Wisconsin and Montana. Other includes our Canadian operations and former Twin Creeks Venture (terminated in December 2017).

(2) Other Timberlands sales include sales of seeds and seedlings, chips, as well as sales from our former Uruguayan operations (sold during third quarter 2017). Our former Uruguayan operations included logs, plywood and hardwood lumber harvested or produced. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) for further information.

(3) Includes chips and other byproducts.

NOTE 4: DISCONTINUED OPERATIONS AND OTHER DIVESTITURES

OPERATIONS DIVESTED

On September 1, 2017, we completed the sale of our Uruguay timberlands and manufacturing operations, to a consortium led by BTG Pactual's Timberland Investment Group (TIG), including other long-term investors, for \$403 million of cash proceeds. Due to the impairment of our Uruguayan operations recorded during second quarter 2017 (refer to [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#)), no material gain or loss was recorded as a result of this sale.

The sale of our Uruguayan operations was not considered a strategic shift that had or will have a major effect on our operations or financial results and therefore did not meet the requirements for presentation as discontinued operations.

DISCONTINUED OPERATIONS

During 2016, we entered into three separate transactions to sell our Cellulose Fibers business. As a result of these transactions, the company recognized a pretax gain on disposition of \$789 million and total cash proceeds of \$2.5 billion in the second half of 2016. These transactions consisted of:

- sale of our Cellulose Fibers liquid packaging board business to Nippon Paper Industries Co., Ltd for \$285 million in cash proceeds, which closed on August 31, 2016;
- sale of our Cellulose Fibers printing papers joint venture to One Rock Capital Partners, LLC for \$42 million in cash proceeds, which closed on November 1, 2016; and
- sale of our Cellulose Fibers pulp business to International Paper for \$2.2 billion in cash proceeds, which closed on December 1, 2016.

The results of operations for our pulp and liquid packaging board businesses, along with our interest in our printing papers joint venture, were reclassified to discontinued operations during our 2016 reporting year. These results have been summarized in "Earnings from discontinued operations, net of income taxes" on our [Consolidated Statement of Operations](#) for each period presented. We did not reclassify our [Consolidated Statement of Cash Flows](#) to reflect discontinued operations. Cellulose Fibers was previously disclosed as a separate reportable business segment. Retained indirect corporate overhead costs previously allocated to Cellulose Fibers are now reported as part of Unallocated Items.

We used \$1.7 billion of the after-tax proceeds from the sale of our Cellulose Fibers business segment for repayment of debt during 2016.

The following table presents the components of the net gain on the divestiture of Cellulose Fibers:

DOLLAR AMOUNTS IN MILLIONS	
	2016
Proceeds, net of cash and cash equivalents disposed of	\$ 2,486
Less:	
Net book value of assets and liabilities disposed of	(1,678)
Transaction costs, net of reimbursement	(19)
	(1,697)
Pretax gain on Cellulose Fibers divestitures	789
Income taxes	(243)
Net gain on Cellulose Fibers divestitures	\$ 546

NET EARNINGS FROM DISCONTINUED OPERATIONS

Sales and Net Earnings from Discontinued Operations

DOLLAR AMOUNTS IN MILLIONS	
	2016 ⁽¹⁾
Total net sales	\$ 1,537
Costs of sales	1,283
Gross margin	254
Selling expenses	12
General and administrative expenses	29
Research and development expenses	5
Charges for integration and restructuring, closures and asset impairments ⁽²⁾	63
Other operating income, net	(27)
Operating income	172
Equity loss from joint venture	(4)
Interest expense, net of capitalized interest	(5)
Earnings from discontinued operations before income taxes	163
Income taxes	(97)
Net earnings from operations	66
Net gain on divestiture of Cellulose Fibers	546
Net earnings from discontinued operations	\$ 612
<p>(1) Discontinued operations in 2016 includes 335 days of the pulp business, 305 days of our printing papers joint venture operations, and 244 days of the liquid packaging board business.</p> <p>(2) Charges for integration and restructuring, closures and asset impairments consist of costs related to our strategic evaluation of the Cellulose Fibers businesses and transaction-related costs.</p>	

Results of discontinued operations exclude certain general corporate overhead costs that have been allocated to and are included in contribution to earnings for the operating segments.

CASH FLOWS FROM DISCONTINUED OPERATIONS**Cash Flows from Discontinued Operations**

DOLLAR AMOUNTS IN MILLIONS	
	2016 ⁽¹⁾
Net cash provided by operating activities	\$ 196
Net cash provided by investing activities	\$ 2,356
(1) Discontinued operations in 2016 includes 335 days of the pulp business, 305 days of our printing papers joint venture operations, and 244 days of the liquid packaging board business, and the cash flows associated with the CF divestitures.	

RELATED PARTY TRANSACTIONS WITH PRINTING PAPERS JOINT VENTURE

Prior to November 1, 2016, we held a 50 percent ownership interest in North Pacific Paper Corporation (NORPAC), our printing papers joint venture, which we considered a related party. We provided goods and services to NORPAC, including raw materials and support services. The amount paid to Weyerhaeuser by this joint venture for goods and services was \$126 million in 2016.

NOTE 5: MERGER WITH PLUM CREEK

On February 19, 2016, we merged with Plum Creek Timber Company, Inc. (Plum Creek). Plum Creek was a REIT that primarily owned and managed timberlands in the United States. Plum Creek also produced wood products, developed opportunities for mineral and other natural resource extraction, and sold real estate properties.

The acquisition of total assets of \$10.0 billion was a noncash investing and financing activity comprised of \$6.4 billion in equity consideration transferred and \$3.6 billion of liabilities assumed.

Summarized Unaudited Pro Forma Information that Presents Combined Amounts as if this Merger Occurred at the Beginning of 2015

DOLLAR AMOUNTS IN MILLIONS, EXCEPT PER-SHARE FIGURES	
	2016
Net sales	\$ 6,525
Net earnings from continuing operations attributable to Weyerhaeuser common shareholders	\$ 519
Net earnings from continuing operations per share attributable to Weyerhaeuser common shareholders, basic	\$ 0.69
Net earnings from continuing operations per share attributable to Weyerhaeuser common shareholders, diluted	\$ 0.68

Pro forma net earnings attributable to Weyerhaeuser common shareholders exclude \$155 million of non-recurring merger-related costs (net of tax) incurred in the year ended December 31, 2016. Pro forma data may not be indicative of the results that would have been obtained had these events occurred at the beginning of the period presented, nor is it intended to be a projection of future results.

NOTE 6: NET EARNINGS PER SHARE

Our basic earnings per share attributable to Weyerhaeuser common shareholders for the last three years were:

- \$0.99 in 2018,
- \$0.77 in 2017 and
- \$1.40 in 2016.

Our diluted earnings per share attributable to Weyerhaeuser common shareholders for the last three years were:

- \$0.99 in 2018,
- \$0.77 in 2017 and
- \$1.39 in 2016.

HOW WE CALCULATE BASIC AND DILUTED NET EARNINGS PER SHARE

"Basic earnings" per share is net earnings available to common shareholders divided by the weighted average number of our outstanding common shares, including stock equivalent units where there is no circumstance under which those shares would not be issued.

"Diluted earnings" per share is net earnings available to common shareholders divided by the sum of the:

- weighted average number of our outstanding common shares and
- the effect of our outstanding dilutive potential common shares.

Dilutive potential common shares may include:

- outstanding stock options,
- restricted stock units and
- performance share units.

Calculation of Weighted Average Number of Outstanding Common Shares - Dilutive

SHARES IN THOUSANDS			
	2018	2017	2016
Weighted average number of outstanding shares - basic	754,556	753,085	718,560
Dilutive potential common shares:			
Stock options	1,310	2,571	2,672
Restricted stock units	566	582	756
Performance share units	395	428	413
Total effect of outstanding dilutive potential common shares	2,271	3,581	3,841
Weighted average number of outstanding common shares - dilutive	756,827	756,666	722,401

We use the treasury stock method to calculate the dilutive effect of our outstanding stock options, restricted stock units and performance share units. Share-based payment awards that are contingently issuable upon the achievement of specified performance or market conditions are included in our diluted earnings per share calculation in the period in which the conditions are satisfied.

SHARES EXCLUDED FROM DILUTIVE EFFECT

The following shares were not included in the computation of diluted earnings per share because they were either antidilutive or the required performance or market conditions were not met. Some or all of these shares may be dilutive potential common shares in future periods.

Potential Shares Not Included in the Computation of Diluted Earnings per Share

SHARES IN THOUSANDS			
	2018	2017	2016
Stock options	2,402	1,351	1,462
Performance share units	1,080	799	384

NOTE 7: INVENTORIES

Inventories include raw materials, work-in-process, finished goods as well as materials and supplies.

Inventories as of the End of Our Last Two Years

DOLLAR AMOUNTS IN MILLIONS		
	DECEMBER 31, 2018	DECEMBER 31, 2017
LIFO inventories:		
Logs	\$ 11	\$ 17
Lumber, plywood, panels, and fiberboard	75	66
Other products	10	10
FIFO or moving average cost inventories:		
Logs	35	38
Lumber, plywood, panels, fiberboard and engineered wood products	86	91
Other products	83	77
Materials and supplies	89	84
Total	\$ 389	\$ 383

LIFO — the last-in, first-out method — applies to major inventory products held at our U.S. domestic locations. The FIFO — the first-in, first-out method — or moving average cost methods apply to the balance of our domestic raw material and product inventories as well as for all material and supply inventories and all foreign inventories. If we used FIFO for all LIFO inventories, our stated inventories would have been higher by \$79 million as of December 31, 2018, and \$70 million as of December 31, 2017.

HOW WE ACCOUNT FOR OUR INVENTORIES

The Inventories section of [Note 1: Summary of Significant Accounting Policies](#) provides details about how we account for our inventories.

NOTE 8: PROPERTY AND EQUIPMENT

Property and equipment includes land, buildings and improvements, machinery and equipment, roads and other items.

Carrying Value of Property and Equipment and Estimated Service Lives

DOLLAR AMOUNTS IN MILLIONS			
	RANGE OF LIVES	DECEMBER 31, 2018	DECEMBER 31, 2017
Property and equipment, at cost:			
Land	N/A	\$ 87	\$ 88
Buildings and improvements	15-40	942	867
Machinery and equipment	5-25	3,240	3,037
Roads	10-35	785	782
Other	3-10	179	182
Total cost		5,233	4,956
Accumulated depreciation and amortization		(3,376)	(3,338)
Property and equipment, net		\$ 1,857	\$ 1,618

SERVICE LIVES AND DEPRECIATION

In general, additions are classified into components, each with its own estimated useful life as determined at the time of purchase. Buildings and improvements for property and equipment have estimated lives that are generally at either the low end or high end of the range from 15 years to 40 years, depending on the type and performance of construction.

Depreciation expense was:

- \$197 million in 2018,
- \$206 million in 2017 and
- \$198 million in 2016 (excluding discontinued operations).

NOTE 9: RELATED PARTIES

This note provides details about and our transactions with related parties. For the years presented, our related parties have consisted of:

- Real Estate Development Ventures,
- our Twin Creeks Venture, and
- special-purpose entities (SPEs).

REAL ESTATE DEVELOPMENT VENTURE

WestRock-Charleston Land Partners, LLC (WR-CLP) is a limited liability company which holds residential and commercial real estate development properties, currently under development (Class A Properties) and higher-value timber and development lands (Class B Properties) (referred to collectively as the Real Estate Development Ventures). The company uses the equity method for both its Class A and Class B interests of 3 percent and 50 percent, respectively. Our share of the equity earnings is included in the net contribution to earnings of our Real Estate & ENR segment.

We are not the primary beneficiary of WR-CLP and we are not committed to make any material capital contributions during the remaining term of the venture, which expires in 2020. We do not intend to provide any additional sources of financing for WR-CLP.

The carrying amount of our investment in WR-CLP was \$31 million at December 31, 2017. During 2018, all remaining capital invested in WR-CLP was returned through distributions. At December 31, 2018, we no longer carry an investment related to WR-CLP. Additionally, we had a \$1 million gain on investment from the joint venture during 2018. We record our share of net earnings on the investment within "Interest income and other" in our [Consolidated Statement of Operations](#) in the period which earnings are recorded by the affiliates.

TWIN CREEKS VENTURE

Ownership Redemption, Agreement Termination and Sale Recognition

During October 2017, we redeemed our 21 percent ownership interest in the Twin Creeks Venture for \$108 million in cash. We did not recognize a material gain or loss on the redemption of our ownership interest. The cash received was classified as a cash flow from investing activities in our [Consolidated Statement of Cash Flows](#).

Effective December 31, 2017, we terminated the agreements under which we had managed the Twin Creeks timberlands. Following termination of these agreements, Weyerhaeuser has no further responsibilities or obligations related to the Twin Creeks Venture and our continuing involvement in the contributed timberlands ceased. In fourth quarter 2017, we recognized the sale of the original contribution of timberlands that occurred April 2016.

Changes in our deposit from contribution of timberlands to related party balance during 2017 were as follows:

DOLLAR AMOUNTS IN MILLIONS	
Balance at December 31, 2016	\$ 426
Lease payments to Twin Creeks Venture	(8)
Distributions from Twin Creeks Venture	2
Recognition of contributed timberlands	(420)
Balance at December 31, 2017	\$ —

Formation and Operations

On April 1, 2016, we contributed approximately 260,000 acres of our Southern timberlands with an agreed-upon value of approximately \$560 million to Twin Creeks Timber, LLC (Twin Creeks Venture), in exchange for cash of approximately \$440 million and a 21 percent ownership interest. The other members contributed cash of approximately \$440 million for a combined 79 percent ownership interest.

In conjunction with contributing to the venture, we entered into a separate agreement to manage the timberlands owned by the Twin Creeks Venture, including harvesting activities, marketing and log sales activities, and replanting and silviculture activities. This management agreement guaranteed the Twin Creeks Venture an annual return equal to 3 percent of the contributed value of the managed timberlands in the form of minimum quarterly payments from Weyerhaeuser. This agreement also required us to annually distribute 75 percent of any profits earned by us in excess of the minimum quarterly payments. The management agreement was cancellable at any time by Twin Creeks Timber, LLC, and otherwise would expire on April 1, 2019.

The guaranteed return that the management agreement required Weyerhaeuser to provide to the Twin Creeks Venture constituted continuing involvement in the timberlands that we contributed to the venture. This continuing involvement prohibited the recognition of the contribution as a sale and required application of the deposit method to account for the cash payment received. By applying the deposit method to the contribution of timberlands to the venture:

- Our receipt of \$440 million proceeds from the contribution of timberlands to the venture was recorded as a noncurrent liability.
- The contributed timberlands continued to be reported within the "Timber and timberlands at cost, less depletion charged to disposals" on our balance sheet as of December 31, 2016.
- No gain or loss was recognized related to the formation or redemption in our [Consolidated Statement of Operations](#).
- Our balance sheet as of December 31, 2016 did not reflect our 21 percent ownership interest in the Twin Creeks Venture.

The receipt of \$440 million in 2016 was classified as a cash flow from investing activities in our [Consolidated Statement of Cash Flows](#). The cash proceeds from our contribution of timberlands were used for share repurchases.

Sale of Additional Timberlands to Twin Creeks

In conjunction with the redemption and termination discussed above, we also entered an agreement to sell 100,000 acres of Southern timberlands to Twin Creeks for \$203 million. The sale, which included 80,000 acres of timberlands in Mississippi and 20,000 acres in Georgia, closed December 29, 2017. The sale resulted in a \$99 million gain recognized during fourth quarter 2017.

SPECIAL-PURPOSE ENTITIES

From 2002 through 2004, we sold certain nonstrategic timberlands. As a result of these sales, buyer-sponsored and monetization special purpose entities (SPEs) were formed. We are the primary beneficiary and consolidate the assets and liabilities of the SPEs involved in these transactions.

The assets of the buyer-sponsored SPEs are financial investments which consist of bank guarantees. These bank guarantees are in turn backed by bank notes, which are the liabilities of the monetization SPEs. Interest earned from the financial investments within the buyer-sponsored SPEs is used to pay interest accrued on the corresponding monetization SPE's note.

We have an equity interest in the monetization SPEs, but no ownership interest in the buyer-sponsored SPEs. The following disclosures refer to assets of buyer-sponsored SPEs and liabilities of monetization SPEs. However, because these SPEs are distinct legal entities:

- Assets of the SPEs are not available to satisfy our liabilities or obligations.
- Liabilities of the SPEs are not our liabilities or obligations.

Our [Consolidated Balance Sheet](#) as of December 31, 2018 includes:

- Assets from our buyer-sponsored SPEs, which consist of:
 - \$253 million, due first quarter 2019 and
 - \$362 million, due first quarter 2020.
- Liabilities from our monetization SPEs, which consist of:
 - \$302 million, due third quarter 2019.

During fourth quarter 2018, we paid \$209 million related to liabilities from our monetized SPEs at maturity.

Our [Consolidated Statement of Operations](#) includes:

- Interest income on buyer-sponsored SPE investments of:
 - \$34 million in 2018,
 - \$34 million in 2017 and
 - \$34 million in 2016.

- Interest expense on monetization SPE notes of:
 - \$29 million in 2018,
 - \$29 million in 2017 and
 - \$29 million in 2016.

The weighted average interest rate on our buyer-sponsored SPEs was 5.5 percent during 2018 and 2017. The weighted average interest rate on our monetization SPEs was 5.6 percent during 2018 and 2017.

NOTE 10: PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS

This note provides details about defined benefit and defined contribution plans we sponsor for our employees. The "Pension and Other Postretirement Benefit Plans" section of [Note 1: Summary of Significant Accounting Policies](#) provides information about employee eligibility for pension plans and postretirement health care and life insurance benefits, as well as how we account for the plans and benefits.

DEFINED BENEFIT PLANS WE SPONSOR

OVERVIEW OF PLANS

The defined benefit pension plans we sponsor in the U.S. and Canada differ according to each country's requirements. In the U.S., we have plans that qualify under the Internal Revenue Code (qualified plans), as well as plans for select employees that provide additional benefits not qualified under the Internal Revenue Code (nonqualified plans). In Canada, we have plans that are registered under the Income Tax Act and applicable provincial pension acts (registered plans), as well as nonregistered plans for select employees that provide additional benefits that may not be registered under the Income Tax Act or provincial pension acts (nonregistered plans). We also offer other postretirement benefit plans in the U.S. and Canada, including retiree medical and life insurance plans.

Actions to Reduce Pension Plan Obligations

During 2018, we offered select U.S. terminated vested plan participants the opportunity to elect an immediate lump sum distribution. Lump sum distributions were paid from plan assets totaling \$664 million during fourth quarter 2018. In connection with this transaction, we have recorded a settlement charge of \$200 million during fourth quarter 2018, accelerating the recognition of previously unrecognized losses in "Accumulated other comprehensive loss", that would have been recognized in subsequent periods. The settlement triggered a plan remeasurement, however due to the short period between the settlement and our normal year-end remeasurement, the effects were insignificant to the net periodic benefit costs and therefore not recorded.

In January 2019, we transferred approximately \$1.5 billion of U.S. qualified pension plan assets and liabilities to an insurance company through the purchase of a group annuity contract. We expect to record an additional settlement charge of approximately \$450 million in connection with this transaction during first quarter 2019.

To maintain the U.S. qualified pension plan's current funded status in connection with these transactions, we contributed \$300 million to the plan during third quarter 2018. Refer to [Note 21: Income Taxes](#) for details on the tax effects of this transaction.

FUNDED STATUS OF PLANS

The funded status of the plans we sponsor is determined by comparing the projected benefit obligation with the fair value of plan assets at the end of the year. The following table demonstrates how our plans' funded status is reflected on the [Consolidated Balance Sheet](#).

DOLLAR AMOUNTS IN MILLIONS					
	PENSION		OTHER POSTRETIREMENT BENEFITS		
	2018	2017	2018	2017	
Funded status:					
Fair value of plan assets	\$ 4,930	\$ 5,514	\$ 18	\$ —	
Projected benefit obligations	(5,263)	(6,795)	(166)	(200)	
Funded status	\$ (333)	\$ (1,281)	\$ (148)	\$ (200)	
Presentation on our Consolidated Balance Sheet:					
Noncurrent assets	\$ 74	\$ 45	\$ —	\$ —	
Current liabilities	(18)	(21)	(10)	(19)	
Noncurrent liabilities	(389)	(1,305)	(138)	(181)	
Funded status	\$ (333)	\$ (1,281)	\$ (148)	\$ (200)	

Assets and liabilities on the [Consolidated Balance Sheet](#) are different from the cumulative income or expense that we have recorded associated with the plans. The differences are actuarial gains and losses and prior service costs and credits that are deferred and amortized into periodic benefit costs in future periods. Unamortized amounts are recorded in "Accumulated Other Comprehensive Loss", which is a component of total equity on our [Consolidated Balance Sheet](#). The "Accumulated Other Comprehensive Income (Loss)" section of [Note 16: Shareholder's Interest](#) details changes in these amounts by component.

Changes in Fair Value of Plan Assets

DOLLAR AMOUNTS IN MILLIONS				
	PENSION		OTHER POSTRETIREMENT BENEFITS	
	2018	2017	2018	2017
Fair value of plan assets at beginning of year (estimated)	\$ 5,514	\$ 5,351	\$ —	\$ —
Adjustment for final fair value of plan assets	44	18	—	—
Actual return on plan assets	123	553	—	—
Foreign currency translation	(73)	59	—	—
Employer contributions and benefit payments	345	57	36	20
Plan participants' contributions	—	—	4	6
Plan transfers	1	3	—	—
Benefits paid (includes lump sum settlements)	(1,024)	(527)	(22)	(26)
Fair value of plan assets at end of year (estimated)	\$ 4,930	\$ 5,514	\$ 18	\$ —

We estimate the fair value of pension plan assets based upon the information available during the year-end reporting process. In some cases, primarily with regard to private equity funds, the available information consists of net asset values as of an interim date, plus cash flows and market events between the interim date and the end of the year. We update the year-end estimated fair value of pension plan assets during the first half of the next year to incorporate year-end net asset values received after we have filed our Annual Report on Form 10-K. During second quarter 2018, we recorded an increase in the beginning of year fair value of the pension assets of \$44 million, or less than 1 percent.

During second quarter 2018, we also updated our mortality assumption and census data used to estimate our projected benefit obligation for our U.S. qualified pension plan. We recorded an adjustment to our projected benefit obligation, incorporating updated census data and applying new company-specific mortality data. As a result of these updates, the beginning of year pension projected benefit obligation decreased by \$155 million, or approximately 2 percent. The net effect of these updates, including the update to the pension assets, was a \$199 million improvement in funded status.

See additional details about the changes in the fair value of plan assets in the "Pension Assets" section below.

Changes in Projected Benefit Obligations of Our Pension and Other Postretirement Benefit Plans

DOLLAR AMOUNTS IN MILLIONS				
	PENSION		OTHER POSTRETIREMENT BENEFITS	
	2018	2017	2018	2017
Reconciliation of projected benefit obligation:				
Projected benefit obligation beginning of year	\$ 6,795	\$ 6,469	\$ 200	\$ 225
Service cost	37	35	—	—
Interest cost	236	264	7	8
Plan participants' contributions	—	—	4	6
Actuarial (gains) losses	(718)	489	(18)	(18)
Foreign currency translation	(69)	59	(5)	5
Benefits paid (includes lump sum settlements)	(1,024)	(527)	(22)	(26)
Plan amendments and other	5	3	—	—
Plan transfers	1	3	—	—
Projected benefit obligation at end of year	\$ 5,263	\$ 6,795	\$ 166	\$ 200

See additional details about the actuarial assumptions and changes in the projected benefit obligation in the "Actuarial Assumptions" section below.

Accumulated Benefit Obligations Greater Than Plan Assets

As of December 31, 2018, pension plans with accumulated benefit obligations greater than plan assets had:

- \$4.5 billion in projected benefit obligations,
- \$4.4 billion in accumulated benefit obligations and
- assets with a fair value of \$4.1 billion.

As of December 31, 2017, pension plans with accumulated benefit obligations greater than plan assets had:

- \$5.9 billion in projected benefit obligations,
- \$5.9 billion in accumulated benefit obligations and
- assets with a fair value of \$4.6 billion.

The accumulated benefit obligation for all of our defined benefit pension plans was:

- \$5.2 billion at December 31, 2018, and
- \$6.7 billion at December 31, 2017.

PENSION ASSETS

Our Investment Policies and Strategies

Our investment policies and strategies guide and direct how the funds are managed for the benefit plans we sponsor. These funds include our:

- U.S. Pension Trust — funds our U.S. qualified pension plans;
- Canadian Pension Trust — funds our Canadian registered pension plans; and
- Retirement Compensation Arrangements — fund a portion of our Canadian nonregistered pension plans.

U.S. and Canadian Pension Trusts

As of the end of 2018, we have begun to shift pension plan assets to an allocation that will more closely match the pension plan liability profile going forward. The former investment strategy included investments in hedge funds, private equity funds, derivative instruments and other investments. These asset classes are now generally in redemption and run-off mode however, given the long-term nature of these investments, they will continue to comprise a significant portion of the plan assets for several years. We expect all investments in redemption to be redeemed at amounts materially consistent with their net asset values. As these investments are redeemed or liquidated, cash proceeds available for investment will be invested in accordance with our revised investment strategy.

The revised investment strategy targets an initial 60 percent allocation to growth assets and a 40 percent allocation to liability hedging assets. We expect to increase the allocation to liability hedging assets over time as the funded status of the pension plan improves. Growth assets include new investments in global equities, hedge funds, which are generally in redemption, and private equity assets, which are generally in run-off mode. Liability hedging assets include corporate credit and government issued fixed income securities, treasury futures and interest rate swaps selected to align with the plan liabilities.

Cash and short-term investments include highly liquid money market and government securities and are primarily held to fund benefit payments, capital calls, margin requirements or to meet regulatory requirements. Cash at December 31, 2018, includes amounts that will be invested in liability hedging assets such as fixed income investments.

Fixed income investments include publicly traded corporate and government issued debt. These bonds have varying maturities, credit quality and sector exposure, and are selected to align with the duration of our plan liabilities. The fixed income investments are invested largely in line with long corporate bond indices.

Hedge fund and related investments are privately-offered managed pools primarily structured as limited liability entities. General members or partners of these limited liability entities serve as portfolio managers and are thus responsible for the fund's underlying investment decisions. Underlying investments within these funds may include long and short public and private equities, corporate, mortgage and sovereign debt, options, swaps, forwards and other derivative positions. These funds have varying degrees of leverage, liquidity, and redemption provisions.

Private equity and related investments are investments in private equity, mezzanine, distressed, co-investments and other structures. Private equity funds generally participate in buyouts and venture capital of limited liability entities through unlisted equity and debt instruments. These funds may also borrow at the underlying entity level. Mezzanine and distressed funds generally invest in the debt of public or private companies with additional participation through warrants or other equity options.

Derivative instruments are comprised of swaps, futures, forwards or options. Equity and fixed income index derivatives are used to achieve target equity and bond exposure or to reduce exposure to certain market risks. Foreign currency derivatives reduce exposure to certain currency risks. Total return swaps enable exposure to return characteristics of specific financial strategies with limited exchange of principal.

Assets within our qualified and registered pension plans in our U.S. and Canadian pension trusts were invested as follows:

	DECEMBER 31, 2018	DECEMBER 31, 2017
Cash and short-term investments	5.8 %	10.6 %
Fixed income investments:		
Corporate	21.5	—
Government	8.6	—
Hedge funds and related investments	36.9	58.8
Private equity and related investments	21.9	22.2
Derivative instruments, net	5.6	8.7
Accrued liabilities	(0.3)	(0.3)
Total	100.0 %	100.0 %

Retirement Compensation Arrangements

Retirement compensation arrangements fund a portion of our Canadian nonregistered pension plans. As required by Canadian tax rules, approximately 50 percent of these assets are invested into a noninterest-bearing refundable tax account held by the Canada Revenue Agency. This portion of the portfolio does not earn returns. The remaining portion is invested in a portfolio of equities.

Managing Risk

Investments and contracts are subject to risks including market price, liquidity, currency, interest rate and credit risks. The following provides an overview of these risks and describes governance processes and actions we take to mitigate these risks on our pension plan asset portfolios.

Market price risk is the risk that market fluctuations will adversely affect the value of plan assets. The trusts mitigate market price risk by investing in a diversified portfolio. In addition, we and our investment advisers perform regular monitoring with ongoing qualitative assessments, quantitative assessments, and comprehensive investment and operational due diligence.

Liquidity risk is the risk that the trust will not be able to settle liabilities such as payments to participants, counterparties, and service providers. Plan investments in limited liability pools with no active secondary market may be illiquid. Private equity funds are subject to distribution and funding schedules set by fund managers and market activity. Hedge funds may also be subject to restrictions that delay redemptions. To mitigate liquidity risk, private equity portfolios have been diversified across different vintage years and strategies, and hedge fund portfolios have been

diversified across investment fund managers, strategies and liquidity provisions. In addition, the investment committee regularly reviews cash flows of the pension trusts and sets appropriate guidelines to address liquidity needs. With the change in investment strategy and a larger percentage of the plan assets invested in more liquid instruments such as publicly traded fixed income investments, liquidity risk is greatly reduced.

Currency risk arises from holding plan assets denominated in a currency other than the currency in which its liabilities are settled. Currency risk is generally managed through notional contracts designed to hedge net exposure to non-functional currencies. With the change in investment strategy, currency risk will be mitigated going forward by investing more of the Canadian plan assets in Canadian dollar investments.

Interest rate risk exists on both the asset and liability side, and is the risk that a change in interest rates will adversely affect the fair value of interest rate securities or liabilities, thereby affecting the overall funded status. With the change in investment strategy to more closely match the plan liabilities, interest rate risk will be greatly reduced.

Credit risk is the risk that counterparties' failure to discharge their obligations could affect cash flows. The trusts have exposure through investments in fixed income securities. This risk is mitigated by investing in a diversified portfolio. The trusts also have exposure through settlement receivables from derivative contracts. Only the amount of unsettled net receivables is at risk for these types of investments, and no principal is at risk. We decrease credit risk exposure by only dealing with highly-rated financial counterparties; as of year-end, our counterparties each had a credit rating of at least A from S&P. We further manage this risk through diversification of counterparties, predefined settlement and margining provisions and documented agreements.

We are also exposed to credit risk indirectly through counterparty relationships initiated by underlying managers of investments in limited liability pools. This risk is mitigated through initial due diligence and ongoing monitoring processes.

Valuation of Our Plan Assets

Pension assets are stated at fair value as of the reporting date. Fair value is based on the amount that would be received to sell an asset or paid to settle a liability in an orderly transaction between market participants at the reporting date. We do not consider forced or distressed sale scenarios. Instead, we consider both observable and unobservable inputs that reflect assumptions applied by market participants when setting the exit price of an asset or liability in an orderly transaction within the principal market for that asset or liability.

We value the pension plan assets based upon the observability of exit pricing inputs and classify pension plan assets based upon the lowest level input that is significant to the fair value measurement of the pension plan assets in their entirety. The fair value hierarchy is:

- Level 1: Inputs are unadjusted quoted prices for identical assets or liabilities traded in an active market.
- Level 2: Inputs are quoted prices in non-active markets for which pricing inputs are observable either directly or indirectly at the reporting date.
- Level 3: Inputs are derived from valuation techniques in which one or more significant inputs or value drivers are unobservable.

Investments for which fair value is measured using the net asset value per share as a practical expedient are not categorized within the fair value hierarchy.

Cash and short-term investments are valued at cost, which approximates market.

Fixed income investments are valued at exit prices quoted in active or non-active markets or based on observable inputs.

Hedge funds, private equities, and related fund units are valued based on the net asset values of the funds. These values represent the per-unit price at which new investors are permitted to invest and existing investors are permitted to exit. When net asset values as of the end of the year have not been received, we estimate fair value by adjusting the most recently reported net asset values for market events and cash flows between the interim date and the end of the year.

Derivative instruments are valued based upon valuation statements received from each derivative's counterparty. Some of these contracts are not publicly traded.

The net pension plan assets, when categorized in accordance with this fair value hierarchy, are as follows. Investments valued using net asset value (NAV) as a practical expedient are presented to reconcile with total plan assets.

DOLLAR AMOUNTS IN MILLIONS							
2018	LEVEL 1		LEVEL 2		LEVEL 3	NAV	TOTAL
Pension trust investments:							
Cash and short-term investments	\$	275	\$	12	\$	—	\$ 287
Common and preferred stock		—		—		—	—
Fixed income investments:							
Corporate		—		1,054		—	1,054
Government		—		426		—	426
Hedge fund and related investments		—		—		1,811	1,814
Private equity and related investments		—		—		1,014	1,079
Derivative instruments		—		15		262	277
Total pension trust investments		275		1,507		2,825	4,937
Accrued liabilities, net							(17)
Pension trust net assets							4,920
Canadian nonregistered plan assets:							
Cash and short-term investments		5		—		—	5
Common and preferred stock		5		—		—	5
Total Canadian nonregistered plan assets		10		—		—	10
Total plan assets						\$	4,930

DOLLAR AMOUNTS IN MILLIONS					
2017	LEVEL 1	LEVEL 2	LEVEL 3	NAV	TOTAL
Pension trust investments:					
Cash and short-term investments	\$ 580	\$ 2	\$ —	\$ —	\$ 582
Common and preferred stock	1	—	—	—	1
Hedge fund and related investments	59	—	10	3,168	3,237
Private equity and related investments	—	—	102	1,120	1,222
Derivative instruments	—	31	445	—	476
Total pension trust investments	640	33	557	4,288	5,518
Accrued liabilities, net					(16)
Pension trust net investments					5,502
Canadian nonregistered plan assets:					
Cash and short-term investments	6	—	—	—	6
Common and preferred stock	6	—	—	—	6
Total Canadian nonregistered plan assets	12	—	—	—	12
Total plan assets				\$	5,514

Assets that do not have readily available quoted prices in an active market require more judgment to value and have increased risk. Approximately \$330 million, or 6.7 percent, of our pension plan assets were classified as Level 3 assets as of December 31, 2018.

A reconciliation of the beginning and ending balances of the pension plan assets measured at fair value using significant unobservable inputs (Level 3) is presented below:

DOLLAR AMOUNTS IN MILLIONS					
	INVESTMENTS			Total	
	Hedge funds and related investments	Private equity and related investments	Derivative instruments, net		
Balance as of December 31, 2016	\$ 4	\$ 75	\$ 376	\$	455
Net realized gains (losses)	(1)	(30)	15		(16)
Net change in unrealized gains (losses)	2	41	67		110
Purchases	—	14	—		14
Sales	(1)	—	—		(1)
Settlements	—	—	(13)		(13)
Transfers into Level 3	6	19	—		25
Transfers out of Level 3	—	(17)	—		(17)
Balance as of December 31, 2017	10	102	445		557
Net realized gains (losses)	—	—	238		238
Net change in unrealized gains (losses)	1	(5)	(184)		(188)
Purchases	—	5	—		5
Sales	—	(2)	—		(2)
Settlements	—	—	(237)		(237)
Transfers into Level 3	—	18	—		18
Transfers out of Level 3	(8)	(53)	—		(61)
Balance as of December 31, 2018	\$ 3	\$ 65	\$ 262	\$	330

The availability of observable market data is monitored to assess the appropriate classification of financial instruments within the fair value hierarchy. Changes in economic conditions or model-based valuation techniques may require the transfer of financial instruments from one fair value level to another. In such instances, the transfer is reported at the beginning of the reporting period. We evaluate the significance of transfers between levels based upon the nature of the financial instrument and size of the transfer relative to total net assets available for benefits.

The table below shows the fair value and aggregate notional amount of the derivative instruments held by our pension trusts at the end of the last two years.

DOLLAR AMOUNTS IN MILLIONS				
	FAIR VALUE		NOTIONAL	
	DECEMBER 31, 2018	DECEMBER 31, 2017	DECEMBER 31, 2018	DECEMBER 31, 2017
Equity and fixed income index derivatives, net	\$ —	\$ 19	\$ —	\$ 501
Foreign currency derivatives, net	—	12	13	1,413
Futures contracts, net	15	—	1,073	—
Total return swaps, net	262	445	558	1,443
Total	\$ 277	\$ 476	\$ 1,644	\$ 3,357

ACTUARIAL ASSUMPTIONS

We use actuarial assumptions to estimate our benefit obligations and our net periodic benefit costs. The following tables show the rates used to estimate our benefit obligations and periodic net benefit costs.

Rates We Use in Estimating Our Benefit Obligations

	PENSION	
	DECEMBER 31, 2018	DECEMBER 31, 2017
Discount rates:		
United States	4.40%	3.70%
Canada	3.70%	3.50%
Lump sum distributions ⁽¹⁾⁽²⁾	PPA Table	PPA Table
Rate of compensation increase:		
Salaried:		
United States	13.00% to 2.00% decreasing with participant age	13.00% to 2.00% decreasing with participant age
Canada	3.25%	3.25%
Hourly:		
United States	13.00% to 2.30% decreasing with participant age	13.00% to 2.30% decreasing with participant age
Canada	3.00%	3.00%
Lump sum or installment distributions election ⁽²⁾	60.00%	60.00%
(1) PPA Phased Table: Interest and mortality assumptions as mandated by Pension Protection Act of 2006 including the phase out of the prior interest rate basis in 2013.		
(2) U.S. qualified salaried and nonqualified plans only.		

The discount rates used for our U.S. other postretirement benefit plans were 4.20 percent and 3.50 percent for the years ended December 31, 2018, and December 31, 2017, respectively. Additionally, the discount rates used for our Canadian other postretirement benefit plans were 3.70 percent and 3.40 percent for the years ended December 31, 2018, and December 31, 2017, respectively.

Estimating Our Net Periodic Benefit Costs

PENSION			
	2018	2017	2016
Discount rates:			
United States	3.70%	4.30%	4.50%
Canada	3.50%	3.70%	4.00%
Lump sum distributions ⁽¹⁾⁽²⁾	PPA Table	PPA Table	PPA Table
Expected return on plan assets:			
Qualified/registered plans ⁽³⁾	8.00%	8.00%	9.00% for all plans except 7.00% for plans assumed from Plum Creek
Nonregistered plans	3.50%	3.50%	3.50%
Rate of compensation increase:			
Salaried:			
United States	13.00% to 2.00% decreasing with participant age	13.00% to 2.00% decreasing with participant age	13.00% to 2.00% decreasing with participant age
Canada	3.25%	3.50%	3.50%
Hourly:			
United States	13.00% to 2.30% decreasing with participant age	13.00% to 2.30% decreasing with participant age	13.00% to 2.30% decreasing with participant age
Canada	3.00%	3.25%	3.25%
Lump sum distributions election ⁽²⁾	60.00%	60.00%	60.00%

(1) PPA Phased Table: Interest and mortality assumptions as mandated by Pension Protection Act of 2006 including the phase out of the prior interest rate basis in 2013.
 (2) U.S. qualified salaried and nonqualified plans only.
 (3) Beginning in 2017 we used an assumed expected return on plan assets of 8.00 percent for qualified and registered pension plans.

The discount rates used for our U.S. other postretirement benefit plans were 3.50 percent, 3.70 percent and 4.00 percent for the years ended December 31, 2018, December 31, 2017, and December 31, 2016, respectively. Additionally, the discount rates used for our Canadian other postretirement benefit plans were 3.40 percent, 3.60 percent and 3.90 percent for the years ended December 31, 2018, December 31, 2017, and December 31, 2016, respectively.

Expected Return on Plan Assets

We estimate the expected long-term return on assets for our qualified, registered and nonregistered pension plans.

Qualified and Registered Pension Plans

We assumed a long-term rate of return on plan assets of 8.0 percent for the year ended December 31, 2018.

As of the end of 2018, we have begun implementing a change in our asset strategy to an allocation that will more closely match the plan's liability profile moving forward, resulting in a larger allocation of our assets into fixed income securities. With this change, we have determined that we will reduce our assumption of long-term rate of return on plan assets to 7.0 percent for the year ended December 31, 2019.

Determining our expected return requires a high degree of judgment. We consider actual pension fund performance over multiple years, and current and expected valuation levels in the global equity and credit markets. Historical fund returns are used as a base, and we place added weight on more recent pension plan asset performance.

Nonregistered Plans

Canadian tax rules require that 50 percent of the assets for nonregistered plans go to a noninterest-bearing refundable tax account. As a result, the return we earn investing the other 50 percent is spread over 100 percent of the assets. Our expected long-term annual rate of return on the portion we are allowed to manage is 7.0 percent. This assumption is based on historical experience and future return expectations. The expected overall annual return on assets that fund our nonregistered plans is 3.5 percent.

Health Care Costs

Rising costs of health care affect the costs of our other postretirement plans. We use assumptions about health care cost trend rates to estimate the cost of benefits we provide. Our trend rate assumptions are based on historical market experience, current environment and future expectations. In 2018, the assumed weighted health care cost trend rate was:

- 8.4 percent for U.S. Pre-Medicare
- 4.5 percent for U.S. Health Reimbursement Account (HRA)
- 5.1 percent for Canada

This table shows the assumptions we use in estimating the annual cost increase for health care benefits we provide.

Assumptions We Use in Estimating Health Care Benefit Cost Trends

	2018		2017	
	U.S.	CANADA	U.S.	CANADA
Weighted health care cost trend rate assumed for next year	7.80% for Pre-Medicare and 4.50% for HRA	4.90%	8.40% for Pre-Medicare and 4.50% for HRA	5.10%
Rate that the cost trend rate gradually declines to	4.50%	4.00%	4.50%	4.30%
Year the cost trend rate is reached	2037	2039	2037	2028

The assumed health care cost trend rate can influence projected postretirement benefit plan payments. The following table demonstrates the effect a one percent change in assumed health care cost trend rates would have with all other assumptions remaining constant.

Effect of a One Percent Change in Health Care Costs

AS OF DECEMBER 31, 2018 (DOLLAR AMOUNTS IN MILLIONS)				
	1% INCREASE		1% DECREASE	
Effect on total service and interest cost components	Less than \$1		Less than \$(1)	
Effect on accumulated postretirement benefit obligation	\$ 5		\$ (4)	

ACTIVITY OF PLANS

Net Periodic Benefit Cost (Credit)

DOLLAR AMOUNTS IN MILLIONS						
	PENSION			OTHER POSTRETIREMENT BENEFITS		
	2018	2017	2016	2018	2017	2016
Net periodic benefit cost (credit):						
Service cost ⁽¹⁾	\$ 37	\$ 35	\$ 48	\$ —	\$ —	\$ —
Interest cost	236	264	277	7	8	8
Expected return on plan assets	(399)	(409)	(495)	—	—	—
Amortization of actuarial loss	225	195	156	8	8	9
Amortization of prior service cost (credit)	3	4	4	(8)	(8)	(7)
Accelerated pension costs for Plum Creek merger-related change-in-control provisions	—	—	5	—	—	—
Settlement charge	200	—	—	—	—	—
Net periodic benefit cost (credit)	\$ 302	\$ 89	\$ (5)	\$ 7	\$ 8	\$ 10

(1) Service cost includes \$13 million in 2016 for employees that were part of our Cellulose Fibers divestitures. These charges are included in our results of discontinued operations. Curtailment and special termination benefits are related to involuntary terminations due to restructuring activities.

Estimated Amortization from Accumulated Other Comprehensive Loss in 2019

DOLLAR AMOUNTS IN MILLIONS					
	PENSION		OTHER POSTRETIREMENT BENEFITS		TOTAL
	Net actuarial loss	\$ 108	\$ 7	\$ 7	
Prior service cost (credit)	4	(1)	(1)		3
Net effect cost	\$ 112	\$ 6	\$ 6	\$	\$ 118

Expected Pension Plan and Benefit Funding

Established funding standards govern the funding requirements for our qualified and registered pension plans. We fund the benefit payments of our nonqualified and nonregistered plans as benefit payments come due. We voluntarily contributed \$300 million to our U.S. qualified pension plans during 2018, although there was no minimum required contribution for the year.

During 2018, we contributed \$22 million for our Canadian registered plans, we made contributions and benefit payments of \$2 million for our Canadian nonregistered pension plans and made benefit payments of \$19 million for our nonqualified pension plans.

During 2019, based on estimated year-end asset values and projections of plan liabilities, we expect to:

- be required to contribute approximately \$17 million for our Canadian registered plan;
- be required to contribute or make benefit payments for our Canadian nonregistered plans of \$3 million; and
- make benefit payments of approximately \$16 million for our U.S. nonqualified pension plans.

We do not anticipate a contribution being required for our U.S. qualified pension plan for 2019.

Expected Postretirement Benefit Funding

Benefits for these plans are paid from our general assets as they come due. We expect to make benefit payments of \$23 million for our U.S. and Canadian other postretirement benefit plans in 2019, including \$6 million expected to be required to cover benefit payments under collectively bargained contractual obligations.

Estimated Projected Benefit Payments for the Next 10 Years

DOLLAR AMOUNTS IN MILLIONS		
	PENSION ⁽¹⁾	OTHER POSTRETIREMENT BENEFITS
2019	\$ 272	\$ 17
2020	233	16
2021	231	15
2022	232	14
2023	234	14
2024-2028	1,161	57

(1) Estimated payments exclude future payments transferred in conjunction with our January 2019 group annuity contract purchase.

UNION-ADMINISTERED MULTIEMPLOYER BENEFIT PLANS

We contribute to multiemployer defined benefit plans under the terms of collective-bargaining agreements. These plans cover a small number of our employees and on an annual basis our contributions are immaterial.

These plans have different risks than single-employer plans. Our contributions may be used to fund benefits for employees of other participating employers. If we choose to stop participating, we may be required to pay a withdrawal liability based on the underfunded status of the plan. If another participating employer stops contributing to the plan, we may become responsible for remaining plan unfunded obligations.

DEFINED CONTRIBUTION PLANS

We sponsor various defined contribution plans for our U.S. and Canadian salaried and hourly employees. Our contributions to these plans were:

- \$22 million in 2018,
- \$21 million in 2017 and
- \$27 million in 2016.

NOTE 11: ACCRUED LIABILITIES

Accrued liabilities were comprised of the following:

DOLLAR AMOUNTS IN MILLIONS		
	DECEMBER 31, 2018	DECEMBER 31, 2017
Accrued compensation and employee benefit costs	\$ 192	\$ 223
Accrued taxes payable	30	43
Customer rebates, volume discounts and deferred income	99	96
Interest	109	111
Product remediation accrual (Note 19)	2	98
Other	58	74
Total	\$ 490	\$ 645

NOTE 12: LINES OF CREDIT

OUR LINES OF CREDIT

During March 2017, we entered into a \$1.5 billion five-year senior unsecured revolving credit facility that expires in March 2022. This replaced a \$1 billion senior unsecured revolving credit facility that was originally set to expire September 2018. Borrowings are at LIBOR plus a spread or at other interest rates mutually agreed upon between the borrower and the lending banks. As of December 31, 2018, we had \$425 million of outstanding borrowings on the revolving credit facility and had an additional \$1,075 million available. We were in compliance with the revolving credit facility covenants as of December 31, 2018.

OTHER LETTERS OF CREDIT AND SURETY BONDS

The amounts of other letters of credit and surety bonds we have entered into as of the end of our last two years are included in the following table:

DOLLAR AMOUNTS IN MILLIONS			
		DECEMBER 31, 2018	DECEMBER 31, 2017
Letters of credit	\$	38	\$ 37
Surety bonds	\$	123	\$ 134

Our compensating balance requirements for our letters of credit were \$6 million as of December 31, 2018.

NOTE 13: LONG-TERM DEBT

This note provides details about:

- term loans issued and extinguished and
- long-term debt and long-term debt maturities.

Our long-term debt includes notes, debentures and other borrowings.

TERM LOANS ISSUED AND EXTINGUISHED

During February 2018, we paid our \$62 million 7.00 percent debenture at maturity.

During July 2017, we prepaid a \$550 million variable-rate term loan originally set to mature in 2020 (2020 term loan). The 2020 term loan was prepaid using available cash of \$325 million as well as borrowing proceeds from a new \$225 million variable-rate term loan set to mature in 2026 (2026 term loan). The 2020 term loan was eligible to receive patronage refunds while outstanding. Similarly, we receive patronage refunds on the 2026 term loan, which will continue while the loan remains outstanding.

LONG-TERM DEBT AND LONG-TERM DEBT MATURITIES

The following table lists our long-term debt by types and interest rates at the end of our last two years and includes the current portion.

Long-Term Debt by Types and Interest Rates (Includes Current Portion)

DOLLAR AMOUNTS IN MILLIONS			
		DECEMBER 31, 2018	DECEMBER 31, 2017
7.00% debentures due 2018		—	62
7.375% notes due 2019		500	500
9.00% debentures due 2021		150	150
4.70% debentures due 2021		588	597
7.125% debentures due 2023		191	191
5.207% debentures due 2023		881	885
4.625% notes due 2023		500	500
3.25% debentures due 2023		324	324
8.50% debentures due 2025		300	300
7.95% debentures due 2025		136	136
7.70% debentures due 2026		150	150
7.35% debentures due 2026		62	62
7.85% debentures due 2026		100	100
Variable rate term loan credit facility matures 2026		225	225
6.95% debentures due 2027		300	300
7.375% debentures due 2032		1,250	1,250
6.875% debentures due 2033		275	275
Other		1	1
		5,933	6,008
Less unamortized discounts		(5)	(5)
Less unamortized debt expense		(9)	(11)
Total	\$	5,919	\$ 5,992
Portion due within one year	\$	500	\$ 62

Amounts of Long-Term Debt Due Annually for the Next Five Years and the Total Amount Due After 2023

DOLLAR AMOUNTS IN MILLIONS ⁽¹⁾	
2019	\$ 500
2020	—
2021	719
2022	—
2023	1,876
Thereafter	2,798
(1) Excludes \$26 million of unamortized discounts, capitalized debt expense and fair value adjustments (related to Plum Creek merger).	

NOTE 14: FAIR VALUE OF FINANCIAL INSTRUMENTS

FAIR VALUE OF DEBT

The estimated fair values and carrying values of our long-term debt and line of credit consisted of the following:

DOLLAR AMOUNTS IN MILLIONS	DECEMBER 31, 2018		DECEMBER 31, 2017	
	CARRYING VALUE	FAIR VALUE (LEVEL 2)	CARRYING VALUE	FAIR VALUE (LEVEL 2)
Long-term debt (including current maturities) and line of credit:				
Fixed rate	\$ 5,694	\$ 6,345	\$ 5,768	\$ 6,823
Variable rate	650	650	224	225
Total Debt	\$ 6,344	\$ 6,995	\$ 5,992	\$ 7,048

To estimate the fair value of long-term debt, we used the market approach, which is based on quoted market prices we received for the same types and issues of our debt.

We believe that our variable rate long-term debt and line of credit instruments have net carrying values that approximate their fair values with only insignificant differences.

The inputs to these valuations are based on market data obtained from independent sources or information derived principally from observable market data. The difference between the fair value and the carrying value represents the theoretical net premium or discount we would pay or receive to retire all debt at the measurement date.

FAIR VALUE OF OTHER FINANCIAL INSTRUMENTS

We believe that our other financial instruments, including cash and cash equivalents, short-term investments, mutual fund investments held in grantor trusts, receivables, and payables, have net carrying values that approximate their fair values with only insignificant differences. This is primarily due to the short-term nature of these instruments and the allowance for doubtful accounts.

NOTE 15: LEGAL PROCEEDINGS, COMMITMENTS AND CONTINGENCIES

This note provides details about our:

- legal proceedings,
- environmental matters and
- commitments and other contingencies.

LEGAL PROCEEDINGS

We are party to various legal proceedings arising in the ordinary course of business. We are not currently a party to any legal proceeding that management believes could have a material adverse effect on our [Consolidated Balance Sheet](#), [Consolidated Statement of Operations](#), or [Consolidated Statement of Cash Flows](#). See [Note 21: Income Taxes](#) for a discussion of a tax proceeding involving Plum Creek's 2008 U.S. federal income tax return.

ENVIRONMENTAL MATTERS

Site Remediation

Under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – commonly known as Superfund – and similar state laws, we:

- are a party to various proceedings related to the cleanup of hazardous waste sites and
- have been notified that we may be a potentially responsible party related to the cleanup of other hazardous waste sites for which proceedings have not yet been initiated.

We have received notification from the Environmental Protection Agency (the EPA) and have acknowledged that we are a potentially responsible party in a portion of the Kalamazoo River Superfund site in southwest Michigan. Our involvement in the remediation site is based on our former ownership of the Plainwell, Michigan mill located within the remediation site. Several other companies also have been deemed potentially responsible parties as past or present owners or operators of facilities within the site, or as arrangers under CERCLA.

We cooperated with other parties to jointly implement an administrative order issued by the EPA on April 14, 2016, with respect to a portion of the site comprising a stretch of the river approximately 1.7 miles long referred to as the Otsego Township Dam Area. During third quarter 2018, implementation of this administrative order was completed.

In 2010, the company, along with others, was named as a defendant by Georgia-Pacific Consumer Products LP, Fort James Corporation and Georgia-Pacific LLC in an action seeking contribution under CERCLA for remediation costs relating to a certain area within the site. On March 29, 2018, the U.S. District Court issued an opinion and order assigning the company responsibility for 5 percent of approximately \$50 million in past costs incurred by the plaintiffs. The remaining 95 percent of this pool of past costs incurred was allocated to the plaintiffs and other defendants.

The opinion and order, which is currently on appeal before the US Court of Appeals for the Sixth Circuit, does not establish allocation for future remediation costs, and accordingly, we may incur additional costs in connection with future remediation tasks for other areas of the site. In connection with the opinion and order, we updated our best estimate of the liability associated with the site and recorded a pretax charge of \$28 million in first quarter 2018 within "Other operating costs (income), net" on the [Consolidated Statement of Operations](#).

Our Established Reserves. We have established reserves for estimated remediation costs on the active Superfund sites and other sites for which we are a potentially responsible party. These reserves are recorded in "Accrued liabilities" and "Other liabilities" in our [Consolidated Balance Sheet](#).

Changes in the Reserve for Environmental Remediation

DOLLAR AMOUNTS IN MILLIONS	
Reserve balance as of December 31, 2017	\$ 48
Reserve charges and adjustments, net	27
Payments	(13)
Reserve balance as of December 31, 2018	\$ 62

We change our accrual to reflect:

- new information on any site concerning implementation of remediation alternatives,
- updates on prior cost estimates and new sites and
- costs incurred to remediate sites.

Estimates. We believe it is reasonably possible, based on currently available information and analysis, that remediation costs for all identified sites may exceed our existing reserves by up to \$126 million.

This estimate, in which those additional costs may be incurred over several years, is the upper end of the range of reasonably possible additional costs. The estimate:

- is much less certain than the estimates on which our accruals currently are based and
- uses assumptions that are less favorable to us among the range of reasonably possible outcomes.

In estimating our current accruals and the possible range of additional future costs, we:

- assumed we will not bear the entire cost of remediation of every site,
- took into account the ability of other potentially responsible parties to participate and
- considered each party's financial condition and probable contribution on a per-site basis.

We have not recorded any amounts for potential recoveries from insurance carriers.

Asset Retirement Obligations

We have obligations associated with the retirement of tangible long-lived assets consisting primarily of reforestation obligations related to forest management licenses in Canada and obligations to close and cap landfills. Some of our sites have asbestos containing materials. We have met our current legal obligation to identify and manage these materials. In situations where we cannot reasonably determine when asbestos containing materials might be removed from the sites, we have not recorded an accrual because the fair value of the obligation cannot be reasonably estimated. These obligations are recorded in "Accrued liabilities" and "Other liabilities" in our [Consolidated Balance Sheet](#).

Changes in the Reserve for Asset Retirement Obligations

DOLLAR AMOUNTS IN MILLIONS	
Reserve balance as of December 31, 2017	\$ 32
Reserve charges and adjustments, net	11
Payments	(12)
Other adjustments ⁽¹⁾	(2)
Reserve balance as of December 31, 2018	\$ 29

(1) Primarily related to a foreign currency remeasurement gain for our Canadian reforestation obligation.

COMMITMENTS AND OTHER CONTINGENCIES

Our commitments and contingencies include:

- guarantees of debt and performance,
- operating leases and
- product remediation contingency.

Guarantees

We have guaranteed the performance of the buyer of a timberland contract we sold in 2005. Future payments on the contract, which expires in 2023, are \$10 million.

Operating Leases

Our rent expense was:

- \$47 million in 2018,
- \$39 million in 2017 and
- \$37 million in 2016 (excluding discontinued operations).

We have operating leases for:

- various equipment, including logging equipment, lift trucks, automobiles and office equipment and
- office and warehouse space.

Future Commitments on Operating Leases

Our operating lease commitments as of December 31, 2018 were:

DOLLAR AMOUNTS IN MILLIONS	
2019	\$ 35
2020	29
2021	26
2022	24
2023	18
Thereafter	78

Product Remediation Contingency

Refer to [Note 19: Charges \(Recoveries\) for Product Remediation, Net](#) for further information.

NOTE 16: SHAREHOLDERS' INTEREST

This note provides details about:

- preferred and preference shares,
- common shares,
- share-repurchase programs and
- accumulated other comprehensive loss

PREFERRED AND PREFERENCE SHARES

We had no preferred shares outstanding at the end of 2018 or 2017. We have authorization to issue 7 million preferred shares with a par value of \$1.00 per share.

On June 24, 2013, we issued 13.8 million of our 6.375 percent Mandatory Convertible Preference Shares, Series A, par value \$1.00 and liquidation preference of \$50.00 per share, for net proceeds of \$669 million.

On July 1, 2016, all outstanding 6.375 percent Mandatory Convertible Preference Shares, Series A (Preference Shares) converted into Weyerhaeuser common shares at a rate of 1.6929 Weyerhaeuser common shares per Preference Share. The company issued a total of 23.2 million Weyerhaeuser common shares in conjunction with the conversion, based on 13.7 million Preference Shares outstanding as of the conversion date.

In accordance with the terms of the Preference Shares, the number of Weyerhaeuser common shares issuable on conversion was determined based on the average volume weighted average price of \$29.54 for Weyerhaeuser common shares over the 20-trading-day period beginning June 1, 2016, and ending on June 28, 2016.

COMMON SHARES

The number of common shares we have outstanding changes when:

- new shares are issued,
- stock options are exercised,
- restricted stock units or performance share units vest,
- stock-equivalent units are paid out,
- shares are tendered,
- shares are repurchased or
- shares are canceled.

Reconciliation of Our Common Share Activity

SHARES IN THOUSANDS			
	2018	2017	2016
Outstanding at beginning of year	755,223	748,528	510,483
Issuance from merger with Plum Creek (Note 5)	—	—	278,887
Stock options exercised	2,026	5,970	2,571
Issued for restricted stock units	466	605	840
Issued for performance shares	86	120	219
Preference shares converted to common	—	—	23,345
Repurchased	(11,410)	—	(67,817)
Outstanding at end of year	746,391	755,223	748,528

SHARE REPURCHASE PROGRAMS

In November 2015, our board of directors approved a share repurchase program under which we were authorized to repurchase up to \$2.5 billion of outstanding shares subsequent to the closing of our merger with Plum Creek (the 2016 Repurchase Program). Transaction fees incurred for repurchases are not counted as use of funds authorized for repurchases under the 2016 Share Repurchase Authorization. During 2016, we repurchased 68 million shares of common stock for \$2 billion under the 2016 Repurchase Program.

We did not repurchase any shares of common stock during 2017. As of December 31, 2017, we had remaining authorization of \$500 million for future stock repurchases.

During 2018, we repurchased 11 million shares of common stock for \$366 million (including transaction fees), under the 2016 Repurchase Program. As of December 31, 2018, we had remaining authorization of \$135 million for future stock repurchases.

On February 7, 2019, our board of directors terminated the 2016 Repurchase Program and approved a new share repurchase program (the 2019 Repurchase Program) under which we are authorized to repurchase up to \$500 million of outstanding shares.

All common stock purchases under the 2016 Repurchase Programs were made in open-market transactions.

We record share repurchases upon trade date as opposed to the settlement date when cash is disbursed. We record a liability to account for repurchases that have not been cash settled. There were no unsettled repurchases as of December 31, 2018, or December 31, 2017.

ACCUMULATED OTHER COMPREHENSIVE LOSS

Changes in amounts included in our accumulated other comprehensive loss by component are:

DOLLAR AMOUNTS IN MILLIONS							
	PENSION			OTHER POSTRETIREMENT BENEFITS			Total
	Foreign currency translation adjustments	Actuarial loss	Prior service cost	Actuarial loss	Prior service credit	Unrealized gains on available-for-sale securities	
Ending balance as of December 31, 2016	\$ 232	\$ (1,651)	\$ (9)	\$ (67)	\$ 29	\$ 7	\$ (1,459)
Other comprehensive income (loss) before reclassifications ⁽¹⁾	32	(280)	(2)	14	—	2	(234)
Amounts reclassified from accumulated other comprehensive income (loss) to earnings ⁽¹⁾⁽²⁾	—	129	3	5	(6)	—	131
Total other comprehensive income (loss)	32	(151)	1	19	(6)	2	(103)
Ending balance as of December 31, 2017	264	(1,802)	(8)	(48)	23	9	(1,562)
Other comprehensive income (loss) before reclassifications ⁽¹⁾	(54)	393	(5)	12	1	—	347
Amounts reclassified from accumulated other comprehensive income (loss) to earnings ⁽¹⁾⁽²⁾⁽³⁾	—	322	3	6	(6)	—	325
Total other comprehensive income (loss)	(54)	715	(2)	18	(5)	—	672
Reclassification of certain tax effects due to tax law changes ⁽⁴⁾	—	(245)	(1)	(12)	5	—	(253)
Reclassification of accumulated unrealized gains on available-for-sale securities ⁽⁵⁾	—	—	—	—	—	(9)	(9)
Net amounts reclassified from accumulated other comprehensive loss to retained earnings	—	(245)	(1)	(12)	5	(9)	(262)
Ending balance as of December 31, 2018	210	(1,332)	(11)	(42)	23	—	(1,152)

(1) Amounts are presented net of tax.

(2) Amounts of actuarial loss and prior service (cost) credit are components of net periodic benefit cost (credit). See [Note: 10: Pension and Other Postretirement Benefit Plans](#).

(3) Amounts include a settlement charge totaling \$200 million related to our U.S. qualified pension plan for the year ended December 31, 2018. See [Note: 10: Pension and Other Postretirement Benefit Plans](#) for further detail.

(4) We reclassified certain tax effects from tax law changes of \$253 million from "Accumulated other comprehensive loss" to "Retained earnings" on our [Consolidated Balance Sheet](#) in accordance with ASU 2018-02. See [Note 1: Summary of Significant Accounting Policies](#).

(5) We reclassified accumulated unrealized gains from available-for-sale securities of \$9 million from "Accumulated other comprehensive loss" to "Retained earnings" on our [Consolidated Balance Sheet](#) in accordance with ASU 2016-01. See [Note 1: Summary of Significant Accounting Policies](#).

NOTE 17: SHARE-BASED COMPENSATION

This note provides details about:

- our Long-Term Incentive Compensation Plan (2013 Plan),
- share-based compensation resulting from our merger with Plum Creek,
- how we account for share-based awards,
- tax benefits of share-based awards,
- types of share-based compensation,
- unrecognized share-based compensation and
- deferred compensation stock equivalent units.

Share-based compensation expense was:

- \$42 million in 2018,
- \$40 million in 2017 and
- \$60 million in 2016.

The 2016 amount above contains a \$6 million award to employees of the divested Cellulose Fibers businesses which is included in our results of discontinued operations.

OUR LONG-TERM INCENTIVE COMPENSATION PLAN

Our long-term incentive plans provide for share-based awards that include:

- restricted stock,
- restricted stock units (RSUs),
- performance shares,
- performance share units (PSUs),
- stock options and
- stock appreciation rights (SARs).

We may issue future grants of up to 21 million shares under the 2013 Plan. We also have the right to reissue forfeited and expired grants.

For restricted stock, RSUs, performance shares, PSUs or other equity grants:

- An individual participant may receive a grant of up to 1 million shares annually.
- No participant may be granted awards that exceed \$10 million earned in a 12-month period.

For stock options and SARs:

- An individual participant may receive a grant of up to 2 million shares in any one calendar year.
- The exercise price is required to be the market price on the date of the grant.

We have not granted any additional SARs since 2016. Additionally, the remaining liability related to SARs is immaterial at December 31, 2018.

The Compensation Committee of our board of directors annually establishes an overall pool of stock awards available for grants based on performance.

For stock-settled awards, we:

- issue new stock into the marketplace and
- generally do not repurchase shares in connection with issuing new awards.

Our common shares would increase by approximately 30 million shares if all share-based awards were exercised or vested. These include:

- all options, RSUs and PSUs outstanding at December 31, 2018, under the 2013 Plan and 2004 Plan; and
- all remaining options, RSUs and PSUs that could be granted under the 2013 Plan.

SHARE-BASED COMPENSATION RESULTING FROM OUR MERGER WITH PLUM CREEK

Replacement awards were granted as a result of the merger with Plum Creek. Eligible outstanding Plum Creek stock options, RSUs and deferred stock unit awards were converted into equivalent equity awards with respect to Weyerhaeuser Common Shares, after giving effect to the appropriate adjustments to reflect the consummation of the merger.

In total, we issued replacement awards consisting of 1,953 thousand stock options and 1,248 thousand RSUs. The replacement stock option awards were fully vested and had a total value of \$5 million, which was included in the equity consideration issued with the merger. Qualifying terminations during 2016 resulted in accelerated vesting of 705 thousand of the replacement RSUs and recognition of \$15 million of expense. The accelerated expense is included in the merger-related integration costs as described in [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#).

We also assumed 289,910 value management awards (VMAs) through the merger with Plum Creek. Qualifying terminations during 2016 resulted in \$6 million of expense recognized for VMAs. This accelerated expense is included in merger-related integration costs as described in [Note 18: Charges for Integration and Restructuring, Closures and Asset Impairments](#).

HOW WE ACCOUNT FOR SHARE-BASED AWARDS

When accounting for share-based awards we:

- use a fair-value-based measurement for share-based awards and
- recognize the cost of share-based awards in our consolidated financial statements.

We recognize the cost of share-based awards in our [Consolidated Statement of Operations](#) over the required service period — generally the period from the date of the grant to the date when it is vested. Special situations include:

- Awards that vest upon retirement — the required service period ends on the date an employee is eligible for retirement, including early retirement.
- Awards that continue to vest following job elimination or the sale of a business — the required service period ends on the date the employment from the company is terminated.

In these special situations, compensation expense from share-based awards is recognized over a period that is shorter than the stated vesting period.

TAX BENEFITS OF SHARE-BASED AWARDS

Our total income tax benefit from share-based awards — as recognized in our [Consolidated Statement of Operations](#) — for the last three years was:

- \$5 million in 2018,
- \$6 million in 2017 and
- \$12 million in 2016.

The 2016 amount above contains a \$2 million income tax benefit from share-based awards to employees that were part of the Cellulose Fibers divestitures which is included in our results of discontinued operations.

Tax benefits from share-based awards are accrued as stock compensation expense and realized when:

- restricted shares and RSUs vest,
- performance shares and PSUs vest,
- stock options are exercised and
- SARs are exercised.

TYPES OF SHARE-BASED COMPENSATION

Our share-based compensation is in the form of:

- restricted stock units,
- performance share units,
- stock options and
- stock appreciation rights.

RESTRICTED STOCK UNITS

Through the 2013 Plan, we award RSUs — grants that entitle the holder to shares of our stock as the award vests.

The Details

Our RSUs granted in 2018, 2017 and 2016 generally:

- vest ratably over four years;
- immediately vest in the event of death while employed or disability;
- continue to vest upon retirement at an age of at least 62, but a portion of the grant is forfeited if retirement occurs before the one year anniversary of the grant;
- continue vesting for one year in the event of involuntary termination when the retirement has not been met; and
- will be forfeited upon termination of employment in all other situations including early retirement prior to age 62.

Our Accounting

The fair value of our RSUs is the market price of our stock on the grant-date of the awards.

We generally record share-based compensation expense for RSUs over the four-year vesting period. Generally, for RSUs that continue to vest following the termination of employment, we record the share-based compensation expense over a required service period that is less than the stated vesting period.

Activity

The following table shows our RSU activity for 2018.

	RESTRICTED STOCK UNITS (IN THOUSANDS)	WEIGHTED AVERAGE GRANT-DATE FAIR VALUE
Nonvested at December 31, 2017	1,515	\$ 29.12
Granted	710	34.19
Vested	(560)	28.81
Forfeited	(72)	\$ 30.19
Nonvested at December 31, 2018 ⁽¹⁾	1,593	\$ 31.41
(1) As of December 31, 2018, there were approximately 336 thousand RSUs that had met the requisite service period and will be released as identified in the grant terms.		

The weighted average grant-date fair value for RSUs was:

- \$34.19 in 2018,
- \$32.83 in 2017 and
- \$30.25 in 2016.

The total grant-date fair value of RSUs vested was:

- \$16 million in 2018,
- \$18 million in 2017 and
- \$36 million in 2016.

Nonvested RSUs accrue dividends that are paid out when RSUs vest. Any RSUs forfeited will not receive dividends.

As RSUs vest, a portion of the shares awarded is withheld to cover employee taxes. As a result, the number of stock units vested and the number of common shares issued will differ.

PERFORMANCE SHARE UNITS

Through the 2013 Plan, we award PSUs — grants that entitle the holder to shares of our stock as the award vests.

The Details

The final number of shares awarded will range from 0 percent to 150 percent of each grant’s target, depending upon actual company performance.

For shares granted in 2018 and 2017, the ultimate number of PSUs earned is based on two measures:

- our relative total shareholder return (TSR) ranking measured against the S&P 500 over a three-year period and

- our relative TSR ranking measured against an industry peer group of companies over a three-year period.

For shares granted in 2016, the ultimate number of PSUs earned is based on three measures:

- our relative total shareholder return (TSR) ranking measured against the S&P 500 over a three-year period,
- our relative TSR ranking measured against an industry peer group of companies over a three-year period and
- achievement of Plum Creek merger cost synergy targets.

The vesting provisions for PSUs granted in 2018, 2017, and 2016 were as follows:

- vest 100 percent on the third anniversary of the grant date as long as the individual remains employed by the company;
- fully vest in the event the participant dies or becomes disabled while employed;
- continue to vest upon retirement at an age of at least 62, but a portion of the grant is forfeited if retirement occurs before the one year anniversary of the grant;
- continue vesting for one year in the event of involuntary termination when the retirement criteria has not been met and the employee has met the second anniversary of the grant date; and
- will be forfeited upon termination of employment in all other situations including early retirement prior to age 62.

Our Accounting

Since the awards contain a market condition, the effect of the market condition is reflected in the grant-date fair value which is estimated using a Monte Carlo simulation model. This model estimates the TSR ranking of the company over the performance period. Compensation expense is based on the estimated probable number of earned awards and recognized over the vesting period on an accelerated basis. Generally, compensation expense would be reversed if the performance condition is not met unless the requisite service period has been achieved.

Weighted Average Assumptions Used in Estimating the Value of Performance Share Units

	2018 GRANTS	2017 GRANTS	2016 GRANTS
Performance period	1/1/2018-12/31/2020	1/1/2017 – 12/31/2019	1/1/2016 – 12/31/2018
Expected dividends	3.81%	3.74%	3.92% - 5.37%
Risk-free rate	1.75% - 2.34%	0.68% - 1.55%	0.45% - 0.97%
Volatility	17.30% - 21.52%	22.71% - 24.07%	21.87% - 28.09%
Weighted average grant-date fair value	\$ 35.49	\$ 37.93	\$ 22.58

Activity

The following table shows our PSU activity for 2018.

	GRANTS (IN THOUSANDS)	WEIGHTED AVERAGE GRANT-DATE FAIR VALUE
Nonvested at December 31, 2017	965	\$ 30.87
Granted at target	343	35.49
Vested	(112)	32.79
Forfeited	(26)	37.93
Performance adjustment	(128)	\$ 34.74
Nonvested at December 31, 2018 ⁽¹⁾	1,042	\$ 31.52

(1) As of December 31, 2018, there were approximately 232 thousand PSUs that had met the requisite service period and will be released as identified in the grant terms.

The total grant-date fair value of PSUs vested was:

- \$4 million in 2018,
- \$4 million in 2017 and
- \$8 million in 2016.

As PSUs vest, a portion of the shares awarded is withheld to cover participant taxes. As a result, the number of stock units vested and the number of common shares issued will differ.

STOCK OPTIONS

Stock options entitle award recipients to purchase shares of our common stock at a fixed exercise price. During 2018 and 2017, we did not grant any stock option awards. When granted in prior years, however, we granted stock options with an exercise price equal to the market price of our stock on the date of the grant.

The Details

Our stock options generally:

- vest over four years of continuous service,
- must be exercised within 10 years of the grant-date and
- use a Black-Scholes option valuation model to estimate the fair value of every stock option award on its grant-date.

Activity

The following table shows our option unit activity for 2018.

	OPTIONS (IN THOUSANDS)	WEIGHTED AVERAGE EXERCISE PRICE	WEIGHTED AVERAGE REMAINING CONTRACTUAL TERM (IN YEARS)	AGGREGATE INTRINSIC VALUE (IN MILLIONS)
Outstanding at December 31, 2017	8,487	\$ 26.47		
Exercised	(2,025)	\$ 25.68		
Forfeited or expired	(96)	\$ 25.02		
Outstanding at December 31, 2018 ⁽¹⁾	6,366	\$ 26.75	5.33	\$ 4
Exercisable at December 31, 2018	4,732	\$ 27.14	4.78	\$ 4

(1) As of December 31, 2018, there were approximately 573 thousand stock options that had met the requisite service period and will be released as identified in the grant terms.

The total intrinsic value of stock options exercised was:

- \$22 million in 2018,
- \$68 million in 2017 and
- \$18 million in 2016.

UNRECOGNIZED SHARE-BASED COMPENSATION

As of December 31, 2018, our unrecognized share-based compensation cost for all types of share-based awards included \$33 million related to non-vested equity-classified share-based compensation arrangements — expected to be recognized over a weighted average period of approximately 1.1 years.

DEFERRED COMPENSATION STOCK EQUIVALENT UNITS

Certain employees and our board of directors may defer compensation into stock-equivalent units.

The Details

The 2013 Plan works differently for employees and directors.

Eligible employees:

- may choose to defer all or part of their bonus into stock-equivalent units;
- may choose to defer part of their salary, except for executive officers; and
- receive a 15 percent premium if the deferral is for at least five years.

Our directors:

- receive a portion of their annual retainer fee in the form of RSUs, which vest over one year and may be deferred into stock-equivalent units;
- may choose to defer some or all of the remainder of their annual retainer fee into stock-equivalent units; and
- do not receive a premium for their deferrals.

Employees and directors also choose when the deferrals will be paid out although no deferrals may be paid until after the separation from service of the employee or director.

Our Accounting

We settle all deferred compensation accounts in cash for our employees. Our directors receive shares of common stock as payment for stock-equivalent units. In addition, we credit all stock-equivalent accounts with dividend equivalents. The number of common shares to be issued in the future to directors is 639 thousand.

Stock-equivalent units are:

- liability-classified awards and
- re-measured to fair value at every reporting date.

The fair value of a stock-equivalent unit is equal to the market price of our stock.

Activity

The number of stock-equivalent units outstanding in our deferred compensation accounts were:

- 788 thousand as of December 31, 2018,
- 804 thousand as of December 31, 2017 and
- 1,004 thousand as of December 31, 2016.

NOTE 18: CHARGES FOR INTEGRATION AND RESTRUCTURING, CLOSURES AND ASSET IMPAIRMENTS

Items Included in Our Charges for Integration and Restructuring, Closures and Asset Impairments

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Integration and restructuring charges related to our merger with Plum Creek:			
Termination benefits	\$ —	\$ 11	\$ 54
Acceleration of share-based compensation related to qualifying terminations (Note 17)	—	—	21
Acceleration of pension benefits related to qualifying terminations (Note 10)	—	—	5
Professional services	—	16	52
Other integration and restructuring costs	—	7	14
Total integration and restructuring charges related to our merger with Plum Creek	—	34	146
Charges related to closures and other restructuring activities	1	6	8
Impairment of long-lived assets	1	154	16
Total charges for integration and restructuring, closures and asset impairments	\$ 2	\$ 194	\$ 170

INTEGRATION, RESTRUCTURING AND CLOSURES

During 2017, we incurred and accrued for termination benefits (primarily severance) and non-recurring professional services costs directly attributable to our merger with Plum Creek.

During 2016, we incurred and accrued for termination benefits (primarily severance), accelerated share-based payment costs, and accelerated pension benefits based upon actual and expected qualifying terminations of certain employees as a result of restructuring decisions made subsequent to the merger. We also incurred non-recurring professional services costs for investment banking, legal and consulting, and certain other fees directly attributable to our merger with Plum Creek.

Other restructuring and closure costs include lease termination charges, dismantling and demolition of plant and equipment, gain or loss on disposition of assets, environmental cleanup costs and incremental costs to wind down operating facilities.

ASSET IMPAIRMENTS

The Impairment of Long-Lived Assets section of [Note 1: Summary of Significant Accounting Policies](#) provides details about how we account for these impairments. Additional information can also be found in our [Critical Accounting Policies](#).

Long-Lived Assets

Our long-lived asset impairments were primarily related to the following:

- 2017 — In second quarter 2017, we recognized an impairment charge to the timberlands and manufacturing assets of our Uruguayan operations. On June 2, 2017, our Board of Directors approved an agreement to sell all of the Company's equity in the Uruguayan operations to a consortium led by BTG Pactual's Timberland Investment Group (TIG). As a result of this agreement, the related assets met the criteria to be classified as held for sale at June 30, 2017. This designation required us to record the related assets at fair value, less an amount of estimated selling costs, and thus recognize a \$147 million noncash pretax impairment charge. This amount was recorded in the Timberlands segment. The fair value of the related assets was primarily based on the agreed upon cash purchase price of \$403 million. On September 1, 2017, we announced the completion of the sale. Refer to [Note 4: Discontinued Operations and Other Divestitures](#) for further details on the Uruguayan operations sale. Additionally, in September 2017, we recognized an impairment charge of \$6 million related to a nonstrategic asset in our Wood Products segment. The fair value of the asset was determined using the value indicated in a purchase and sale agreement.
- 2016 — We recognized a \$15 million impairment charge in Real Estate & ENR which represents the fair value less direct selling costs of certain development projects that we planned to sell that had a book value greater than fair value. The fair values of the projects were determined using significant unobservable inputs (Level 3) based on broker opinion of value reports.

NOTE 19: CHARGES (RECOVERIES) FOR PRODUCT REMEDIATION, NET

In July 2017, we announced the implementation of a solution to address concerns regarding our TJI® Joists coated with our former Flak Jacket® Protection product. This issue was isolated to Flak Jacket product manufactured after December 1, 2016, and did not affect any of our other products.

We recorded insurance recoveries of \$25 million and product remediation charges of \$25 million for the year ended December 31, 2018. During the year ended December 31, 2017, we recorded \$290 million to accrue for expected costs associated with the remediation. The charges recorded were attributable to our Wood Products segment and were recorded in "Charges (recoveries) for product remediation, net" on the [Consolidated Statement of Operations](#).

NOTE 20: OTHER OPERATING COSTS (INCOME), NET

Other operating costs (income), net:

- includes both recurring and occasional income and expense items and
- can fluctuate from year to year.

Various Income and Expense Items Included in Other Operating Costs (Income), Net

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Gain on disposition of nonstrategic assets ⁽¹⁾	\$ (5)	\$ (16)	\$ (60)
Foreign exchange losses (gains), net ⁽²⁾	(3)	(1)	(6)
Litigation expense, net	35	20	24
Gain on sale of timberlands ⁽³⁾	—	(99)	—
Environmental remediation insurance recoveries	(5)	(42)	—
Other, net ⁽⁴⁾	52	10	(11)
Total other operating costs (income), net	\$ 74	\$ (128)	\$ (53)

(1) Gain on disposition of nonstrategic assets in 2016 included a \$36 million pretax gain recognized in first quarter 2016 on the sale of our Federal Way, Washington headquarters campus.

(2) Foreign exchange gains and losses result from changes in exchange rates primarily related to our U.S. dollar denominated cash and debt balances that are held by our Canadian subsidiary.

(3) Gain on sale of 100,000 acres sold to Twin Creeks during Q4 2017. Refer to [Note 9: Related Parties](#) for further information.

(4) "Other, net" includes environmental remediation charges. See [Note 15: Legal Proceedings, Commitments and Contingencies](#) for more information.

NOTE 21: INCOME TAXES

This note provides details about our income taxes applicable to continuing operations:

- earnings before income taxes,
- provision for income taxes,
- effective income tax rate,
- deferred tax assets and liabilities,
- unrecognized tax benefits and
- our ongoing IRS tax matter.

Income taxes related to discontinued operations are discussed in [Note 4: Discontinued Operations and Other Divestitures](#).

The Income Taxes section of [Note 1: Summary of Significant Accounting Policies](#) provides details about how we account for our income taxes.

Tax Legislation

On December 22, 2017, H.R. 1, commonly known as the Tax Cuts and Jobs Act (the "Tax Act"), was enacted. The Tax Act contains significant changes to corporate taxation, including the reduction of the corporate tax rate from 35 percent to 21 percent. As a result of the reduction in the corporate tax rate, we revalued our deferred tax assets and liabilities and recorded a tax expense of \$74 million during 2017, which reduced our net deferred tax asset. We were not required to pay a repatriation tax due to the fact that we had no foreign undistributed earnings at December 31, 2017.

The most significant effects of the Tax Act provisions for 2018 include a reduction to our overall estimated annual effective tax rate primarily due to the reduced corporate tax rate, and new limitations on certain business deductions.

During first quarter 2018, we adopted ASU 2018-02 which allowed for the reclassification of certain income tax effects related to the Tax Act between "Accumulated other comprehensive loss" and "Retained earnings". Refer to [Note 1: Summary of Significant Accounting Policies](#) for further details on this ASU and the related effect on our financial statements.

Pension Contribution Tax Adjustment

At the end of 2017, we revalued our deferred tax assets (including pension) to the 2018 federal tax rate of 21 percent, as a result of the Tax Act, as discussed above. During third quarter 2018, we announced actions intended to reduce the liabilities of our U.S. qualified pension plan while maintaining the plan's current funded status and made a decision to contribute \$300 million to our U.S. qualified pension plan (refer to [Note 10: Pension and Other Postretirement Benefit Plans](#)). We were able to deduct this contribution on our 2017 U.S. federal tax return at the 2017 federal tax rate of 35 percent. This resulted in an incremental \$41 million tax benefit for the portion attributable to our TRSs during third quarter 2018.

EARNINGS BEFORE INCOME TAXES

Domestic and Foreign Earnings from Continuing Operations Before Income Taxes

DOLLAR AMOUNTS IN MILLIONS			
	2018	2017	2016
Domestic earnings	\$ 556	\$ 643	\$ 353
Foreign earnings	251	73	151
Total earnings before income taxes	\$ 807	\$ 716	\$ 504

PROVISION FOR INCOME TAXES

Provision (Benefit) for Income Taxes from Continuing Operations

DOLLAR AMOUNTS IN MILLIONS						
	2018		2017		2016	
Current:						
Federal	\$	(69)	\$	10	\$	1
State		(5)		—		1
Foreign		61		82		11
Total current		(13)		92		13
Deferred:						
Federal		45		61		37
State		12		(18)		(3)
Foreign		15		(1)		42
Total deferred		72		42		76
Total income tax provision (benefit)	\$	59	\$	134	\$	89

EFFECTIVE INCOME TAX RATE

Effective Income Tax Rate Applicable to Continuing Operations

DOLLAR AMOUNTS IN MILLIONS						
	2018		2017		2016	
U.S. federal statutory income tax	\$	170	\$	250	\$	177
State income taxes, net of federal tax benefit		8		(2)		(3)
REIT income not subject to federal income tax		(116)		(198)		(99)
SDT settlement		21		—		—
Tax effect of U.S. corporate rate change		—		74		—
Voluntary pension contribution		(41)		—		—
Foreign taxes		15		54		(4)
Repatriation of Canadian earnings		—		(22)		24
Other, net		2		(22)		(6)
Total income tax provision (benefit)	\$	59	\$	134	\$	89
Effective income tax rate		7.3%		18.8%		17.6%

DEFERRED TAX ASSETS AND LIABILITIES

Deferred tax assets and liabilities reflect the future tax effect created by differences between the timing of when income or deductions are recognized for pretax financial book reporting purposes versus income tax purposes. Deferred tax assets represent a future tax benefit (or reduction to income taxes in a future period), while deferred tax liabilities represent a future tax obligation (or increase to income taxes in a future period). Our deferred tax assets and liabilities have been revalued for the reduction in the U.S. corporate tax rate.

Balance Sheet Classification of Deferred Income Tax Assets (Liabilities) Related to Continuing Operations

DOLLAR AMOUNTS IN MILLIONS				
	DECEMBER 31, 2018		DECEMBER 31, 2017	
Net noncurrent deferred tax asset	\$	15	\$	268
Net noncurrent deferred tax liability		(43)		—
Net deferred tax asset (liability)	\$	(28)	\$	268

Items Included in Our Deferred Income Tax Assets (Liabilities)

DOLLAR AMOUNTS IN MILLIONS		
	DECEMBER 31, 2018	DECEMBER 31, 2017
Deferred tax assets:		
Postretirement benefits	\$ 37	\$ 50
Pension	75	306
State tax credits	51	56
Other reserves	13	38
Depletion	41	40
Excess interest	30	—
Incentive compensation	20	23
Workers compensation	18	19
Net operating loss carryforwards	19	18
Other	83	70
Gross deferred tax assets	387	620
Valuation allowance	(61)	(63)
Net deferred tax assets	326	557
Deferred tax liabilities:		
Property, plant and equipment	(197)	(154)
Timber installment notes	(116)	(116)
Other	(41)	(19)
Net deferred tax liabilities	(354)	(289)
Net deferred tax asset (liability)	(28)	268

Other Information About Our Deferred Income Tax Assets (Liabilities)

Other information about our deferred income tax assets (liabilities) include:

- net operating loss and credit carryforwards,
- valuation allowances and
- reinvestment of undistributed earnings.

Net Operating Loss and Credit Carryforwards

Our gross federal, state and foreign net operating loss carryforwards as of the end of 2018 totaled \$584 million as follows:

- U.S. REIT - \$223 million, which expire from 2031 through 2036;
- State - \$361 million, which expire from 2019 through 2037; and
- Foreign - none currently recorded.

Our gross state credit carryforwards at the end of 2018 totaled \$65 million, which includes \$14 million that expire from 2019 through 2032 and \$51 million that do not expire. Our U.S. TRS has \$6 million in foreign tax credit carryforwards that expire in 2027.

Valuation Allowances

With the exception of the valuation allowance discussed below, we believe it is more likely than not that we will have sufficient future taxable income to realize our deferred tax assets.

Our valuation allowance on our deferred tax assets was \$61 million at the end of 2018, related to state credits, state net operating losses and passive foreign tax credits.

Reinvestment of Undistributed Earnings

We have historically asserted it is our intent to reinvest the earnings of our foreign subsidiaries. In fourth quarter 2018, we changed our position regarding the earnings of our Canadian subsidiary. Our change in assertion was based on the company's review of global cash management and planned capital deployment, taking into consideration the effects of the Tax Act. As of 2018, our assertion is to permanently reinvest approximately 10 percent of our Canadian earnings. We have no other foreign subsidiaries with undistributed earnings. Accordingly, deferred taxes have been provided primarily related to Canadian withholding taxes associated with Canadian earnings no longer considered permanently reinvested.

UNRECOGNIZED TAX BENEFITS

Unrecognized tax benefits represent potential future obligations to taxing authorities if uncertain tax positions we have taken on previously filed tax returns are not sustained. The total gross amount of unrecognized tax benefits as of December 31, 2018, and 2017, is \$3 million and \$4 million, of which a net amount of \$1 million and \$2 million, respectively, would affect our tax rate if recognized.

The net liability recorded in our [Consolidated Balance Sheet](#) related to unrecognized tax benefits is \$1 million as of December 31, 2018, comprised of the \$3 million gross unrecognized tax benefit amount net of \$2 million in loss carryforwards available to offset the liability. The net liability as of December 31, 2017, was \$2 million, comprised of \$4 million gross unrecognized tax benefit amount net of \$2 million loss carryforwards available to offset the liability.

In accordance with our accounting policy, we accrue interest and penalties related to unrecognized tax benefits as a component of income tax expense. See [Note 1: Summary of Significant Accounting Policies](#).

Reconciliation of the Beginning and Ending Amount of Unrecognized Tax Benefits

DOLLAR AMOUNTS IN MILLIONS			
	DECEMBER 31, 2018		DECEMBER 31, 2017
Balance at beginning of year	\$	4	\$ 6
Lapse of statute		(1)	(2)
Balance at end of year	\$	3	\$ 4

As of December 31, 2018, none of our U.S. federal income tax returns or foreign jurisdiction income tax returns are under examination. Our U.S. federal income tax returns are open to examination for years 2015 forward and foreign jurisdictions income tax returns are open to examination for years 2010 forward. We are undergoing examinations in state jurisdictions for tax years 2009 through 2017, with tax years 2009 forward open to examination. We do not expect that the outcome of any examination will have a material effect on our consolidated financial statements; however, audit outcomes and the timing of audit settlements are subject to significant uncertainty.

In the next 12 months, we estimate a decrease of \$1 million in unrecognized tax benefits due to the lapse of applicable statutes of limitation.

RESOLUTION OF IRS MATTER

In connection with the merger with Plum Creek, we acquired equity interests in Southern Diversified Timber, LLC, a timberland joint venture (Timberland Venture) with an affiliate of Campbell Global LLC (TCG Member). On August 31, 2016, the Timberland Venture redeemed TCG Member's interest and became a fully consolidated, wholly-owned subsidiary of Weyerhaeuser.

We received a Notice of Final Partnership Administrative Adjustment (FPAA), dated July 20, 2016, from the Internal Revenue Service (IRS) in regard to Plum Creek's 2008 U.S. federal income tax treatment of the transaction forming the Timberland Venture. The IRS asserted that the transfer of the timberlands to the Timberland Venture was a taxable transaction to Plum Creek at the time of the transfer rather than a nontaxable capital contribution. We subsequently filed a petition in the U.S. Tax Court to contest this adjustment.

On February 8, 2019, we entered into a closing agreement with the IRS to settle this dispute. Under the terms of the agreement, the company paid approximately \$21 million of corporate tax. This amount was recorded as tax expense in fourth quarter 2018. No interest or penalties will be assessed. The parties have filed a stipulated decision with the U.S. Tax Court, pursuant to which the Court will officially close the matter.

NOTE 22: GEOGRAPHIC AREAS

This note provides selected key financial data according to the geographical locations of our customers. The selected key financial data includes:

- sales to unaffiliated customers,
- export sales from the U.S. and
- long-lived assets.

SALES

Our sales to unaffiliated customers outside the U.S. are primarily to customers in Canada, Japan and China. Our export sales are comprised primarily of logs, lumber and wood chips to Japan and China.

Sales by Geographic Area

DOLLAR AMOUNTS IN MILLIONS					
	2018		2017		2016
Sales to unaffiliated customers:					
U.S.	\$	6,365	\$	6,168	\$ 5,451
Canada		519		472	341
Japan		410		352	369
China		120		107	108
Other foreign countries		62		97	96
Total	\$	7,476	\$	7,196	\$ 6,365
Export sales from the U.S.:					
Japan	\$	338	\$	295	\$ 314
China		113		102	103
Other foreign countries		153		148	98
Total	\$	604	\$	545	\$ 515

LONG-LIVED ASSETS

Our long-lived assets — used in the generation of revenues in the different geographical areas — are nearly all in the U.S. and Canada. Our long-lived assets include:

- property and equipment, including construction in progress,
- timber and timberlands,
- minerals and mineral rights and
- goodwill.

Long-Lived Assets by Geographic Area

DOLLAR AMOUNTS IN MILLIONS					
	DECEMBER 31, 2018		DECEMBER 31, 2017		DECEMBER 31, 2016
U.S.	\$	14,778	\$	14,922	\$ 15,700
Canada		220		223	206
Other foreign countries		—		—	527
Total⁽¹⁾	\$	14,998	\$	15,145	\$ 16,433

(1) Amounts for December 31, 2016, include assets from discontinued operations.

NOTE 23: SELECTED QUARTERLY FINANCIAL INFORMATION (unaudited)

Quarterly financial data provides a review of our results and performance throughout the year. Our earnings per share for the full year do not always equal the sum of the four quarterly earnings-per share amounts because of common share activity during the year. As the company's common shares are traded on the New York Stock Exchange (NYSE), market price information such as the high and low trading prices of our common shares can be found under the symbol WY.

Key Quarterly Financial Data for the Last Two Years

DOLLAR AMOUNTS IN MILLIONS EXCEPT PER-SHARE FIGURES									
	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		FULL YEAR
2018:									
Net sales	\$	1,865	\$	2,065	\$	1,910	\$	1,636	\$ 7,476
Operating income from continuing operations		404		476		337		177	1,394
Earnings (loss) from continuing operations before income taxes		299		382		240		(114)	807
Net earnings (loss)		269		317		255		(93)	748
Basic and diluted net earnings (loss) per share		0.35		0.42		0.34		(0.12)	0.99
Dividends paid per share		0.32		0.32		0.34		0.34	1.32
2017:									
Net sales	\$	1,693	\$	1,808	\$	1,872	\$	1,823	\$ 7,196
Operating income from continuing operations		293		157		205		476	1,131
Earnings (loss) from continuing operations before income taxes		181		58		103		374	716
Net earnings (loss)		157		24		130		271	582
Basic and diluted net earnings (loss) per share		0.21		0.03		0.17		0.36	0.77
Dividends paid per share		0.31		0.31		0.31		0.32	1.25

CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

The company's principal executive officer and principal financial officer have evaluated the effectiveness of the company's disclosure controls and procedures as of the end of the period covered by this annual report on Form 10-K. Disclosure controls are controls and other procedures that are designed to ensure that information required to be disclosed in the reports filed or submitted under the Securities Exchange Act of 1934, as amended (Act), is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's (SEC) rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, to allow timely decisions regarding required disclosure.

Based on their evaluation, the company's principal executive officer and principal financial officer have concluded that the company's disclosure controls and procedures are effective to ensure that information required to be disclosed complies with the SEC's rules and forms.

CHANGES IN INTERNAL CONTROL

No changes occurred in the company's internal control over financial reporting during the period that have materially affected, or are reasonably likely to materially affect, the company's internal control over financial reporting.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate internal control over financial reporting as is defined in the Securities Exchange Act of 1934 rules. Management, under our supervision, conducted an evaluation of the effectiveness of the company's internal control over financial reporting based on the framework in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation under the framework in Internal Control — Integrated Framework (2013), management concluded that the company's internal control over financial reporting was effective as of December 31, 2018. The effectiveness of the company's internal control over financial reporting as of December 31, 2018, has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
Weyerhaeuser Company:

Opinion on Internal Control Over Financial Reporting

We have audited Weyerhaeuser Company and subsidiaries' (the Company) 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 (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 the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of 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 years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), and our report dated February 15, 2019 expressed an unqualified opinion on those consolidated 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 Management's Report 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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/ KPMG LLP

Seattle, Washington
February 15, 2019

DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

A list of our executive officers and biographical information are found in the [Our Business — Executive Officers of the Registrant](#) section of this report. Information with respect to directors of the company and certain other corporate governance matters, as required by this item to Form 10-K, is set forth in the *Notice of the 2019 Annual Meeting and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019 under the following headings: "Item 1. Election of Directors," "Corporate Governance at Weyerhaeuser," and "Stock Information," and in each case such required information is incorporated herein by reference.

The Weyerhaeuser Code of Ethics applies to our chief executive officer, our chief financial officer and our chief accounting officer, as well as other officers, directors and employees of the company. The Weyerhaeuser Code of Ethics is posted on our website at www.weyerhaeuser.com, and currently is located under the tabs "Sustainability", then "Governance" and finally "Operating Ethically".

EXECUTIVE AND DIRECTOR COMPENSATION

Information with respect to executive and director compensation, as required by this item to Form 10-K, is set forth in the *Notice of the 2019 Annual Meeting and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019 under the headings "Item 1. Election of Directors" and "Executive Compensation," and in each case, such required information is incorporated herein by reference.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information with respect to security ownership of certain beneficial owners and management and with respect to securities authorized for issuance under our equity compensation plans, as required by this item to Form 10-K, is set forth in the *Notice of the 2019 Annual Meeting and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019 under the heading "Stock Information," and such required information is incorporated herein by reference.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information about certain relationships and related transactions and director independence, as required by this item to Form 10-K, is set forth in the *Notice of the 2019 Annual Meeting and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019 under the heading "Corporate Governance at Weyerhaeuser," and such required information is incorporated herein by reference.

PRINCIPAL ACCOUNTING FEES AND SERVICES

Information with respect to principal accounting fees and services, as required by this item to Form 10-K, is set forth in the *Notice of the 2019 Annual Meeting and Proxy Statement* for the company's Annual Meeting of Shareholders to be held May 17, 2019 under the heading "Item 3. Ratify Selection of Independent Registered Public Accounting Firm" and such required information is incorporated herein by reference.

EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

All financial statement schedules have been omitted because they are not applicable or the required information is included in the consolidated financial statements, or the notes thereto, in *Financial Statements and Supplementary Data* above.

The agreements included as exhibits to this annual report are included to provide information about their terms and not to provide any other factual or disclosure information about the company or the other parties to the agreements. The agreements may contain representations and warranties by each of the parties to the applicable agreement that were made solely for the benefit of the other parties to the agreement and should not be treated as categorical statements of fact, but rather as a way of allocating the risk among the parties if those statements prove to be inaccurate. These representations and warranties may have been qualified by disclosures that were made to the other party in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement, may apply standards of materiality in a way that is different from what may be viewed as material to investors, were made only as of the date of the applicable agreement or such other date or dates as may be specified in the agreement, and are subject to more recent developments. Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time.

EXHIBITS

2	—	Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession
	(a)	Agreement and Plan of Merger, dated as of November 6, 2015, between Weyerhaeuser Company and Plum Creek Timber Company, Inc. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed on November 9, 2015 - Commission File Number 1-4825)
	(b)	Asset Purchase Agreement, dated as of May 1, 2016, by and between Weyerhaeuser NR Company and International Paper Company (incorporated by reference to Exhibit 2.2 to the Quarterly Report on Form 10-Q filed on August 5, 2016 - Commission File Number 1-4825)
3	—	Articles of Incorporation
	(a)	Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q filed on May 6, 2011 - Commission File Number 1-4825, and to Exhibit 3.1 to the Current Report on Form 8-K filed on June 20, 2013 - Commission File Number 1-4825)
	(b)	Bylaws (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q filed on October 26, 2018 - Commission File Number 1-4825)
4	—	Instruments Defining the Rights of Security Holders, Including Indentures
	(a)	Indenture dated as of April 1, 1986 between Weyerhaeuser Company and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank and Chemical Bank), a national banking association, as Trustee (incorporated by reference from the Registration Statement on Form S-3, Registration No. 333-36753)
	(b)	First Supplemental Indenture dated as of February 15, 1991 between Weyerhaeuser Company and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank and Chemical Bank), a national banking association, as Trustee (incorporated by reference from the Registration Statement on Form S-3, Registration No. 333-52982)**
	(c)	Second Supplemental Indenture dated as of February 1, 1993 between Weyerhaeuser Company and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank and Chemical Bank), a national banking association, as Trustee (incorporated by reference from the Registration Statement on Form S-3, Registration No. 333-59974)**
	(d)	Third Supplemental Indenture dated as of October 22, 2001 between Weyerhaeuser Company and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank and Chemical Bank), a national banking association, as Trustee (incorporated by reference to Exhibit 4(d) to the Registration Statement on Form S-3, Registration No. 333-72356)
	(e)	Fourth Supplemental Indenture dated as of March 12, 2002 between Weyerhaeuser Company and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank and Chemical Bank), a national banking association, as Trustee (incorporated by reference to Exhibit 4.8 from the Registration Statement on Form S-4/A, Registration No. 333-82376)
	(f)	Indenture dated as of March 15, 1983 between Weyerhaeuser Company (as successor to Willamette Industries, Inc.) and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank), as Trustee (incorporated by reference to Exhibit 4(f) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825)
	(g)	Indenture dated as of January 30, 1993 between Weyerhaeuser Company (as successor to Willamette Industries, Inc.) and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank), as Trustee (incorporated by reference to Exhibit 4(g) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825)
	(h)	First Supplemental Trust Indenture dated as of March 12, 2002 between Weyerhaeuser Company (as successor to Willamette Industries, Inc.) and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank, formerly known as The Chase Manhattan Bank), as Trustee (incorporated by reference to Exhibit 4(h) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825)
	(i)	Indenture dated as of January 15, 1996 between Weyerhaeuser Company Limited (as successor to MacMillan Bloedel Limited) and The Bank of New York Mellon Trust Company, N.A. (as successor to Harris Trust Company of New York, formerly known as Bank of Montreal Trust Company), as Trustee (incorporated by reference to Exhibit 4(i) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825)

	<ul style="list-style-type: none"> (j) First Supplemental Indenture dated as of November 1, 1999 between Weyerhaeuser Company Limited and The Bank of New York Mellon Trust Company, N.A. (as successor to Harris Trust Company of New York, formerly Bank of Montreal Trust Company), as Trustee (incorporated by reference to Exhibit 4(j) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825) (k) Note Indenture dated November 14, 2005 by and among Plum Creek Timberlands, L.P., as Issuer, Weyerhaeuser Company, as successor to Plum Creek Timber Company, Inc., as Guarantor, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed on February 19, 2016 - Commission File Number 1-4825) (l) Supplemental Indenture No. 1 dated as of February 19, 2016 by and among Plum Creek Timberlands, L.P., as Issuer, Weyerhaeuser Company, as Guarantor, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on February 19, 2016 - Commission File Number 1-4825) (m) Supplemental Indenture No. 2 dated September 28, 2016 by and between Weyerhaeuser Company, as successor Issuer, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on September 30, 2016 - Commission File Number 1-4825) (n) Officer's Certificate dated November 15, 2010 executed by Plum Creek Timberlands, L.P., as Issuer (incorporated by reference to Exhibit 4.3 to the Current Report on Form 8-K filed on February 19, 2016 - Commission File Number 1-4825) (o) Officer's Certificate dated November 26, 2012 executed by Plum Creek Timberlands, L.P., as Issuer (incorporated by reference to Exhibit 4.4 to the Current Report on Form 8-K filed on February 19, 2016 - Commission File Number 1-4825) (p) Assumption and Amendment Agreement and Installment Note dated as of April 28, 2016 by and among Plum Creek Timberlands, L.P., Weyerhaeuser Company and MeadWestvaco Timber Note Holding Company II, L.L.C. (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on May 4, 2016 - Commission File Number 1-4825)
10	<p>— Material Contracts</p> <ul style="list-style-type: none"> (a) Form of Weyerhaeuser Executive Change of Control Agreement (incorporated by reference to Exhibit 10(a) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)* (b) Form of Executive Severance Agreement (incorporated by reference to Exhibit 10(b) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)* (c) Severance Agreement with Devin W. Stockfish effective January 1, 2019 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on October 26, 2018 - Commission File Number 1-4825)* (d) Executive Employment Agreement with Doyle Simons dated February 17, 2016 (incorporated by reference to Exhibit 10(v) to the Annual Report on Form 10-K for the annual period ended December 31, 2015 - Commission File Number 1-4825)* (e) Retention Agreement with Russell S. Hagen dated August 24, 2018 (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed on October 26, 2018 - Commission File Number 1-4825)* (f) Restricted Stock Unit Agreement with Adrian M. Blocker dated August 24, 2018 (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q filed on October 26, 2018 - Commission File Number 1-4825)* (g) Weyerhaeuser Company 2013 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on February 19, 2013 - Commission File Number 1-4825)* (h) Form of Weyerhaeuser Company 2013 Long-Term Incentive Plan Stock Option Award Terms and Conditions (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on April 16, 2013 - Commission File Number 1-4825)* (i) Form of Weyerhaeuser Company 2013 Long Term Incentive Plan Performance Share Unit Award Terms and Conditions for Plan Year 2016 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on January 22, 2016 - Commission File Number 1-4825)* (j) Form of Weyerhaeuser Company 2013 Long Term Incentive Plan Performance Share Unit Award Terms and Conditions for Plan Years 2017, 2018 and 2019 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on January 26, 2017 - Commission File Number 1-4825)* (k) Form of Weyerhaeuser Company 2013 Long-Term Incentive Plan Restricted Stock Unit Award Terms and Conditions for Plan Years 2016, 2017, 2018 and 2019 (incorporated by reference to Exhibit 10(i) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 – Commission File Number 1-4825)* (l) Form of Weyerhaeuser Company 2004 Long-Term Incentive Plan Stock Option Award Terms and Conditions (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on February 11, 2013 - Commission File Number 1-4825)* (m) Weyerhaeuser Company 2004 Long-Term Incentive Compensation Plan, as Amended and Restated (incorporated by reference to Exhibit 10.5 to the Current Report on Form 8-K filed on December 29, 2010 - Commission File Number 1-4825)* (n) Form of Plum Creek Executive Stock Option, Restricted Stock Unit and Value Management Award Agreement For Plan Year 2009 (incorporated by reference to Exhibit 10(u) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)* (o) Form of Plum Creek Executive Stock Option, Restricted Stock Unit and Value Management Award Agreement For Plan Year 2010 (incorporated by reference to Exhibit 10(v) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)* (p) Form of Plum Creek Executive Stock Option, Restricted Stock Unit and Value Management Award Agreement For Plan Year 2011 (incorporated by reference to Exhibit 10(w) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)* (q) Form of Plum Creek Executive Restricted Stock Unit and Value Management Award Agreement for Plan Year 2015 (incorporated by reference to Exhibit 10(z) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)*

	(r)	Form of Plum Creek Executive Restricted Stock Unit Agreement for Plan Year 2016 (incorporated by reference to Exhibit 10(aa) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)*
	(s)	2012 Plum Creek Timber Company, Inc. Stock Incentive Plan (incorporated by reference to Exhibit 99.1 from the Registration Statement on Form S-8, Registration No. 333-209617)*
	(t)	Amended and Restated Plum Creek Timber Company, Inc. Stock Incentive Plan (incorporated by reference to Exhibit 99.2 from the Registration Statement on Form S-8, Registration No. 333-209617)*
	(u)	Plum Creek Supplemental Pension Plan (incorporated by reference to Exhibit 10(dd) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)*
	(v)	Plum Creek Pension Plan (incorporated by reference to Exhibit 10(ee) to the Annual Report on Form 10-K for the period ended December 31, 2016 - Commission File Number 1-4825)*
	(w)	Plum Creek Supplemental Benefits Plan (incorporated by reference to Exhibit 10(ff) to the Annual Report on Form 10-K for the annual period ended December 31, 2016 - Commission File Number 1-4825)*
	(x)	Weyerhaeuser Company Amended and Restated Annual Incentive Plan for Salaried Employees (as Amended Effective May 19, 2016) (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on May 25, 2016 - Commission File Number 1-4825)*
	(y)	Weyerhaeuser Company 2015 Deferred Compensation Plan (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed on December 22, 2014 - Commission File Number 1-4825)*
	(z)	Weyerhaeuser Company Salaried Employees Supplemental Retirement Plan (incorporated by reference to Exhibit 10(p) to the Annual Report on Form 10-K for the annual period ended December 31, 2004 - Commission File Number 1-4825)*
	(aa)	2011 Fee Deferral Plan for Directors of Weyerhaeuser Company (Amended and Restated Effective January 1, 2016) (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on May 6, 2016 - Commission File Number 1-4825)*
	(bb)	Form of Weyerhaeuser Company 2013 Long-Term Incentive Plan Director Restricted Stock Unit Award Terms and Conditions (incorporated by reference to Exhibit 10(z) to the Annual Report on Form 10-K for the annual period ended December 31, 2017 - Commission File Number 1-4825)*
	(cc)	Revolving Credit Facility Agreement dated as of March 6, 2017, among Weyerhaeuser Company, as Borrower, the lenders party thereto, JPMorgan Chase Bank, N.A., as Co-Administrative Agent, and Wells Fargo Bank, National Association, as Co-Administrative Agent and Paying Agent. (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on March 10, 2017 - Commission File Number 1-4825)
	(dd)	Term Loan Agreement dated July 24, 2017, by and among Weyerhaeuser Company, Northwest Farm Credit Services, PCA, as administrative agent, and the lender party thereto (incorporated by reference to Exhibit 10 to the Quarterly Report on Form 10-Q filed on July 28, 2017 - Commission File Number 1-4825)
	(ee)	Form of Tax Sharing Agreement to be entered into by and among Weyerhaeuser Company, Weyerhaeuser Real Estate Company and TRI Pointe Homes, Inc. (incorporated by reference to Exhibit 10.5 to the Current Report on Form 8-K filed on November 4, 2013 - Commission File Number 1-4825)
	(ff)	First Amendment to Tax Sharing Agreement dated as of July 7, 2015 by and among Weyerhaeuser Company, TRI Pointe Holdings, Inc. (f/k/a Weyerhaeuser Real Estate Company) and TRI Pointe Homes, Inc. (incorporated by reference to Exhibit 10 to the Quarterly Report on Form 10-Q filed on July 31, 2015 - Commission File Number 1-4825)
	(gg)	Redemption Agreement dated as of August 30, 2016 by and among Southern Diversified Timber, LLC, Weyerhaeuser NR Company, TCG Member, LLC, Plum Creek Timber Operations I, L.L.C., TCG/Southern Diversified Manager, LLC, Southern Diversified, LLC, Campbell Opportunity Fund VI, L.P., and Campbell Opportunity Fund VI-A, L.P. (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed on October 28, 2016 - Commission File Number 1-4825)
	(hh)	Commitment Agreement dated as of January 23, 2019, by and among Weyerhaeuser Company, Athene Annuity and Life Company and State Street Global Advisors Trust Company. Confidential treatment has been requested for portions of this exhibit pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended. These portions have been omitted and filed separately with the Securities and Exchange Commission
14	—	Code of Business Conduct and Ethics (incorporated by reference to Exhibit 14.1 to the Current Report on Form 8-K filed on August 22, 2016 - Commission File Number 1-4825)
21	—	Subsidiaries of the Registrant
23	—	Consent of Independent Registered Public Accounting Firm
31	—	Certification pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as amended
32	—	Certification pursuant to Rule 13a-14(b) under the Securities Exchange Act of 1934, as amended, and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. 1350)
101.INS	—	XBRL Instance Document
101.SCH	—	XBRL Taxonomy Extension Schema Document
101.CAL	—	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	—	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	—	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	—	XBRL Taxonomy Extension Presentation Linkbase Document

* Denotes a management contract or compensatory plan or arrangement.

** Filed in paper - hyperlink not required pursuant to Rule 105 of Regulation S-T

FORM 10-K SUMMARY

None.

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 February 15, 2019.

WEYERHAEUSER COMPANY

/s/ DEVIN W. STOCKFISH

Devin W. Stockfish

President and Chief Executive Officer

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 in the capacities indicated February 15, 2019.

/s/ DEVIN W. STOCKFISH

Devin W. Stockfish

Principal Executive Officer and Director

/s/ RUSSELL S. HAGEN

Russell S. Hagen

Principal Financial Officer

/s/ JEANNE M. HILLMAN

Jeanne M. Hillman

Principal Accounting Officer

/s/ RICK R. HOLLEY

Rick R. Holley

Chairman of the Board and Director

/s/ MARK A. EMMERT

Mark A. Emmert

Director

/s/ SARA GROOTWASSINK LEWIS

Sara Grootwassink Lewis

Director

/s/ JOHN F. MORGAN SR.

John F. Morgan Sr.

Director

/s/ NICOLE W. PIASECKI

Nicole W. Piasecki

Director

/s/ MARC F. RACICOT

Marc F. Racicot

Director

/s/ LAWRENCE A. SELZER

Lawrence A. Selzer

Director

/s/ D. MICHAEL STEUERT

D. Michael Steuert

Director

/s/ KIM WILLIAMS

Kim Williams

Director

/s/ CHARLES R. WILLIAMSON

Charles R. Williamson

Director

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:
[***]

Execution Version

COMMITMENT AGREEMENT

January 23, 2019 (the “Commitment Agreement Date”)

Athene Annuity and Life Company (“Insurer”) 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 Weyerhaeuser Pension Plan (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 9. By signing this Commitment Agreement, Insurer, Weyerhaeuser 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.** Insurer agrees to issue the Contract as follows:
 - a. **Specimen GAC Form Issuance.** On the Scheduled GAC Issuance Date, subject to Insurer’s receipt of the Premium Due Date Transfers and any GAC Issuance True-Up Premium due to Insurer and subject to the terms of paragraphs 1.b. and 1.c., Insurer irrevocably agrees to issue the Contract with an effective date that is the Premium Due Date and in accordance with this Commitment Agreement and 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 take over of administration services regarding payments under the Contract pursuant to paragraph 6 prior to the Annuity Start Date, Insurer 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 Insurer 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 with such updates agreed upon 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 Insurer’s proposal dated January 18, 2019 (the “Proposal”) as updated to reflect (i) any modifications contemplated in Insurer’s Final Annuity Quote Sheet dated January 23, 2019 (the “Final Annuity Quote Sheet”) and (ii) any modifications mutually agreed to between the parties after the Commitment Agreement Date and before the 35th Business Day prior to the Scheduled GAC Issuance Date. Subject to Insurer’s receipt of the Premium Due Date Transfers, Insurer will make payments to Payees commencing on the Annuity Start Date 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 Insurer as of the Annuity Start Date. The original annuity exhibit to the Contract will be consistent with the Payees (including annuitants, contingent annuitants, alternate payees and beneficiaries) on the Tab titled DG2 of the Base File.

Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

***]

- c. Necessary Data. As a condition to Insurer's issuing of the Contract, the Company will deliver or cause to be delivered to Insurer the data necessary for Insurer to prepare the annuity exhibit and the information necessary for Insurer to draft provisions of the Contract and administer the payments thereunder, including but not limited to, information such as factor tables and sample calculations. 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 Insurer, Insurer may refer any Payee who contacts Insurer to the Company Contact for assistance and Insurer may, in its sole discretion, delay the mailing of Welcome Kits and annuity certificates. Insurer may exclude from the annuity exhibit any Payee for which Insurer 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. 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.
- d. GAC Issuance True-Up Premium. Schedule 8 provides a description of the methodologies and procedures by which Insurer will calculate the GAC Issuance True-Up Premium. Insurer and the Company will cooperate in good faith so that Insurer 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 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 Data Correction as promptly as reasonably practicable to Insurer. Insurer will only be responsible for incorporating into the calculation of the GAC Issuance True-Up Premium those Data Corrections that have been notified to Insurer by the Company on or prior to the GAC Issuance Data Notice Date together with any other Data Corrections identified by Insurer (the "GAC Issuance Data"). Such incorporation is subject to Insurer's agreement with such Data Corrections and any limitations on incorporating such Data Corrections 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, Insurer 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 Insurer with any questions on the annuity exhibit. Insurer 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 Insurer will reflect in the annuity exhibit any changes that have been agreed to on or prior to such eleventh Business Day. Insurer may exclude from the annuity exhibit any Payee for which Insurer 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.
 - iii. GAC Issuance True-Up Premium. Eight Business Days prior to the Scheduled GAC Issuance Date, Insurer 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

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to Insurer with any questions on the GAC Issuance True-Up Premium. Insurer and the Company will cooperate in good faith to resolve any discrepancies on or prior to the third Business Day prior to the Scheduled GAC Issuance Date. If the Company and Insurer 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 Insurer's determination will control for purposes of the GAC Issuance True-Up Premium, but the Company or the Independent Fiduciary 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 Insurer an amount, in Cash, equal to the GAC Issuance True-Up Premium, plus interest calculated in accordance with Schedule 8, and Insurer will deposit the Cash into the designated separate account that supports the Contract; or (B) if the GAC Issuance True-Up Premium is a negative number, then Insurer will pay to the Plan Trust an amount, in Cash, equal to the absolute value of the GAC Issuance True-Up Premium plus interest calculated in accordance with Schedule 8.

- 2. **Negotiation of Modified GAC Form**. After the Commitment Agreement Date, Insurer, 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. Insurer will use reasonable best efforts to obtain regulatory approvals, to the extent required by applicable law, of the Modified GAC Form prior to the Scheduled GAC Issuance Date, and in the event that any approval, to the extent required by applicable law, is not granted, or if the Contract is disapproved, Insurer, 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 Washington State Office of the Insurance Commissioner, if any, and, to the extent possible, to preserve the provisions included in the Modified GAC Form. Insurer will use reasonable best 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. Contract Issuance. Following the negotiation of the Modified GAC Form and the receipt of any related regulatory approvals for all negotiated changes to the Specimen GAC Form in accordance with paragraph 2.a., subject to Insurer's receipt of the Premium Due Date Transfers and any GAC Issuance True-Up Premium due to Insurer, Insurer will issue the Contract on the Scheduled GAC Issuance Date 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.. Such Contract will have an effective date that is the Premium Due Date.

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3. **Premium Due Date Transfers.** So long as the conditions to closing set forth in paragraph 8 have been satisfied, the Independent Fiduciary will irrevocably direct the Plan Trustee to pay Insurer, per the instructions set forth in Schedule 11, \$***] (the “Premium Amount”) on the Premium Due Date by:

- (x) assigning, transferring and delivering to Insurer, by the Cut-Off Time, all rights, title and interests in and to each Eligible Asset, and
- (y) paying to Insurer an amount in Cash equal to [***].

In addition, on the Premium Due Date, the Independent Fiduciary will irrevocably direct the Plan Trustee to pay or cause to be paid to Insurer the Interim Asset Cash Flows (such payment, together with the payment of the Premium Amount, the “Premium Due Date Transfers”). If on or following the Premium Due Date, the Plan, the Plan Trust or the Company [***], then the Plan or the Plan Trust shall [***]; otherwise, then the Independent Fiduciary will irrevocably direct the Plan Trustee to [***]. On or before the Premium Due Date, the Independent Fiduciary will irrevocably direct the Plan Trustee to transfer the Eligible Assets to Insurer on the Premium Due Date or to instruct The Depository Trust Clearing Corporation to transfer the Eligible Assets to Insurer on the Premium Due Date. Insurer will deposit the Premium Amount into the dedicated separate account that supports the Contract. [***]. [***]. [***].

- a. Schedule 2 Updates. On the second Business Day after the Commitment Agreement Date, Insurer will deliver to the Company an updated Schedule 2 that reflects the Asset Market Value of each Schedule 2 Asset [***]. If the Company, Insurer and Independent Fiduciary, despite using commercially good faith efforts, cannot resolve any dispute with respect to any such information on or prior to the Premium Due Date, then Insurer’s determination will control for purposes of the Premium Due Date Transfers but the Company or the Independent Fiduciary may immediately commence an arbitration dispute pursuant to Schedule 4 with respect to any such information. On the Premium Due Date, Insurer will, if needed, update Schedule 2 to reflect [***]. Insurer will, if needed, further update Schedule 2 to reflect [***].
- b. [***]. On and as of the Business Day prior to the Premium Due Date, Insurer will provide to the Company [***] information in the form of Schedule 5 [***]. Prior to the Premium Due Date, the Company will confirm to Insurer in writing that such information is accurate and complete or will provide any additions, deletions or corrections to such information. If the Company and Insurer have a dispute with respect to any such information and, despite using commercially good faith efforts, cannot resolve such dispute on or prior to the Business Day prior to the Premium Due Date, then Insurer’s [***] information will control for purposes of the Premium Due Date Transfers but the Company 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 the fifth Business Day following the Premium Due Date, the Company or Insurer may identify [***] and the parties will work in good faith for seven Business Days following the receipt of such notice to agree on [***]. If the parties agree that [***] within such seven Business Days following the receipt of such notice, then, on or before the date that is three Business Days following such agreement, the Independent Fiduciary will irrevocably direct the Plan Trustee to promptly pay or cause to be paid to Insurer an amount, in Cash, per instructions on Schedule 11, equal to [***], and, simultaneously with receipt of such payment, Insurer will return [***] to the Plan Trust

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- together with [***]. Simultaneously with such payment and return, the Company and Insurer will [***]. If the Company, Insurer and the Independent Fiduciary cannot resolve any dispute with respect to any [***], then [***].
- d. [***]. By written notice to the other party on or before the fifth Business Day following the Premium Due Date, the Company or Insurer may identify [***], and the parties will work in good faith for seven Business Days following the receipt of such notice to agree [***]. If the parties agree that [***] within such seven Business Days following the receipt of such notice, then, on or before the date that is three Business Days following such agreement, the Independent Fiduciary will irrevocably direct the Plan Trustee to promptly pay or cause to be paid to Insurer an amount, in Cash, per instructions in Schedule 11, equal to [***]. Simultaneously with such payment, the Company and Insurer will [***]. If Company Insurer and the Independent Fiduciary cannot resolve any dispute with respect to any [***], then [***].
 - e. Interest Payments. Any payment made to Insurer pursuant to paragraph 3.c or 3.d shall also include an amount, in Cash, equal to the interest on such payment calculated at an annual rate equal to [***], from the Premium Due Date through but excluding the date of such payment.
 - f. Additional Actions with respect to Assets. The Independent Fiduciary will irrevocably direct the Plan Trustee to promptly give or cause to be given all notices that are required, under applicable law and the terms of each Eligible Asset, in connection with the sale, assignment, transfer and delivery of the Eligible Assets on the Premium Due Date. The Independent Fiduciary will irrevocably direct the Plan Trustee to and Insurer 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 Insurer may reasonably request in order to implement the transfer of the Eligible Assets to Insurer.
 - g. Risk of Loss on Transferred Assets; Gains on Transferred Assets. Insurer acknowledges and agrees that, if the Premium Due Date Transfers occur, then, from and after the Commitment Agreement Date, Insurer bears any and all risks associated with each Transferred Asset.
 - h. 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 Insurer by the Independent Fiduciary pursuant to this Commitment Agreement.
 - i. Dedicated Separate Account. Insurer will deposit the Premium Amount into the dedicated separate account that supports the Contract.

4. Public Announcements.

- a. Press Releases. The Company and Insurer 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, Insurer 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 Insurer from (i) communicating with Payees, including through communications posted to Insurer's website or (ii) discussing or disclosing the transactions contemplated

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by this Commitment Agreement so long as such disclosure does not reference the Plan or the Company's name, industry, workforce, or other information that could reasonably allow a third party to identify the Company and/or the Plan.

- 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 and Insurer will cooperate to make a request by the Company to the SEC for confidential treatment of information relating to the pricing of the Contract and such other information as the Company and Insurer mutually conclude is competitively sensitive from the perspective of the Company or Insurer or otherwise merits confidential treatment and (ii) the Company will include Insurer in any material correspondence (written or oral) with the SEC regarding such application for confidential treatment, and the Company and Insurer will otherwise reasonably cooperate in connection with such request, including by the Company proposing to redact confidential portions of documents as to which the SEC staff seeks disclosure.
- c. **No Insurer Communications.** Except to the extent the Company has provided prior written consent, from the Commitment Agreement Date until the issuance of any annuity certificate by Insurer to an annuitant, other than as provided for in this Commitment Agreement, (i) Insurer 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) Insurer 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 Insurer 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 Insurer's retirement services business unit from contacting any participant or beneficiary of the Plan in connection with, or to facilitate, Insurer's performance of its obligations under the Contract, the annuity certificates or this Commitment Agreement. Until the mailing of the Welcome Kit by Insurer to annuitants, other than as provided for in this Commitment Agreement, if any participant or beneficiary of the Plan contacts an employee of Insurer's retirement services business unit, Insurer 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.** On or before April 15, 2019 (or such other date agreed to by the parties) (the "Welcome Kit Mailing Date"), Insurer will mail a welcome kit to each annuitant under the Contract (the "Welcome Kit"). Insurer will send a preliminary draft of the Welcome Kit to the Company and the Independent Fiduciary as soon as practicable and Insurer 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 Insurer.
- b. **Annuity Certificates.** Insurer 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

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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 Insurer 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 Insurer 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), how to obtain such copy 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 Insurer.

6. Administration and Transfer.

- a. Administrative Transition. The Company will provide or cause to be provided to Insurer 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 Insurer 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 Insurer of all administration responsibilities necessary to effectively provide recordkeeping and administration services regarding payments under the Contract commencing on the Annuity Start Date. The Company will provide Insurer with final census data in good order on or before January 30, 2019 in order for Insurer to provide recordkeeping and administration services regarding payments under the Contract commencing on the Annuity Start Date. Insurer will conduct a data integrity review of all data elements (including if any potential Payee was deceased prior to the date of the Premium Due Date Transfers) in accordance with Insurer's standard verification practices and procedures. The Company agrees to cooperate with Insurer in the takeover of such recordkeeping and administration services, including ensuring that any third-party service provider provides Insurer with any 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 Insurer may have regarding the benefit provisions, including but not limited to forms of annuity, eligibility conditions, administrative practices and calculation methodology. Insurer shall perform all of its obligations contemplated under this Agreement and the Contract in material compliance with all applicable laws.
- b. Call Center and Company Contact. Insurer 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 the Welcome Kit Mailing Date for Payees to contact Insurer 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 Insurer 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 Insurer with questions related to their Plan benefits, Insurer may refer the Payee to the Company Contact.

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7. **Representations and Warranties.**

- a. **Insurer Representations and Warranties.** Insurer 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.** Insurer is a life insurance company, duly organized, validly existing and in good standing under the laws of the State of Iowa. Insurer 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 Contract 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. Insurer has all requisite corporate power and legal authority to enter into and carry out its obligations under this Commitment Agreement and the Contract and to consummate the transactions contemplated to be undertaken by Insurer in this Commitment Agreement and the Contract.
 - ii. **Authorization of Commitment Agreement and Enforceability.** Insurer has received all necessary corporate approvals and no other action on the part of Insurer is necessary to authorize the execution, delivery and performance of this Commitment Agreement and the Contract, and the consummation of the transactions contemplated to be undertaken by Insurer in this Commitment Agreement and the Contract. This Commitment Agreement has been duly executed and delivered by Insurer, and is a valid and binding obligation of Insurer, enforceable against Insurer 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 Contract by Insurer, and the consummation by Insurer of the transactions contemplated to be undertaken by Insurer 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 10, violate or conflict with any law or order of any governmental authority applicable to Insurer, (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 10 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 Insurer is a party, except where the occurrence of any of the foregoing would not have a material adverse effect on Insurer'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

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- received as of the Commitment Agreement Date and filings with and approvals of state insurance governmental authorities in the states listed on Schedule 10.
- iv. Compliance with Laws. The business of insurance conducted by Insurer 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 Insurer 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 Insurer 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 Insurer to perform its obligations under this Commitment Agreement.
 - v. Accuracy of Information. To Insurer's Knowledge (x) all material information provided by Insurer 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 Insurer, including the Base File, and any information provided by Insurer 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 Insurer 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. Insurer is not (1) a trustee 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 (3) an employer any of whose employees are covered by the Plan. Schedule 6 sets forth a true and complete list of (x) Insurer and Insurer's affiliates that are investment managers within the meaning of ERISA § 3(38)(B) and (y) without duplication of clause (x), Insurer and Insurer'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 Insurer on and as of the Premium Due Date, Insurer 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. BlackRock Financial Management, Inc. ("BlackRock") is not an affiliate of Insurer.
 - vii. No Post-Closing Liability. Following receipt by Insurer 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 Insurer and will be a valid and binding obligation of Insurer and enforceable against Insurer 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 the 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 Insurer 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

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- binding obligation of Insurer, irrevocable and in full force and effect, and enforceable against Insurer 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 Insurer's Knowledge, threatened against Insurer 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 Insurer'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 Insurer to any individual or entity in connection with the transactions contemplated in this Commitment Agreement and the Contract for which any other party, or its respective affiliates or representatives, could be liable.
 - xi. RBC Ratio. As of the Commitment Agreement Date, Insurer's most recent Projected RBC Ratio is [***], and, to Insurer's Knowledge, no event (including a change to financial market metrics) has occurred between the date of Insurer's most recent Projected RBC Ratio and the Commitment Agreement Date that would be expected to cause Insurer's Projected RBC Ratio to [***].
 - x. Sophisticated Investor. Insurer is a sophisticated investor with experience in the purchase of publicly traded debt of the type to be included in the Transferred Assets. Insurer has had access to such information as it deems necessary in order to make its decision to acquire the Transferred Assets from the Plan. Insurer acknowledges and agrees that neither the Company, the Independent Fiduciary, nor the Plan has given any investment advice or rendered any opinion to Insurer as to whether the acquisition of the Transferred Assets is prudent.
- b. Company Representations and Warranties. The Company is acting solely in its non-fiduciary, settlor and Plan sponsor capacity in regard to the transactions contemplated by this Commitment Agreement and hereby represents and warrants to Insurer 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 Washington. 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 Contract 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 corporate power and legal authority to enter into and carry out its obligations under this Commitment Agreement and the Contract and to consummate the transactions contemplated to be undertaken by the Company in this Commitment Agreement and the Contract.
 - 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 Contract, and the consummation of the transactions contemplated to be undertaken by the Company in this Commitment Agreement and the Contract. This Commitment Agreement and the

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- Contract 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 Contract 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(s) provided by or on behalf of the Company to Insurer identified on Schedule 9 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, plan indicator, lump-sum indicator, hourly/salaried indicator, status (beneficiary in pay or participant), years of service and any other relevant information, in each case, with respect to the Payees that was furnished by or on behalf of the Company to Insurer, 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 Contract 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 Insurer nor any of Insurer’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 Contract 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

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contemplated by this Commitment Agreement or the Contract. No Plan Assets that are or will be involved in the transactions contemplated by this Commitment Agreement or the Contract 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. The Plan Assets that are or will be involved in the transactions contemplated by this Commitment Agreement or the Contract will, immediately prior to the Commitment Agreement Date, be exclusively managed by BlackRock. BlackRock has not engaged and will not engage any sub-managers or advisors with respect to its management of the Plan Assets that are or will be involved in the transactions contemplated by this Commitment Agreement or the Contract. Investment advice (within the meaning of ERISA § 3(21)(A)(ii)) with respect to the Plan Assets that are or will be involved in the transactions contemplated by this Commitment Agreement or the Contract is and will be exclusively rendered by BlackRock.

- 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 Contract 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 Insurer, 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., 3.c. and 3.d. 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 consistent with the Plan Trust Agreement.
- ix. Litigation. There is no action pending or, to the Company's Knowledge, threatened against the Company or the Plan 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 Contract 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 Insurer as of the Commitment Agreement Date and as of the Premium Due Date and, with respect to paragraph 7.c.v. only, as of any other date on which the Plan Trustee pays

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Cash or assets to Insurer 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 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 corporate power and legal authority to enter into and carry out its obligations under this Commitment Agreement and to consummate the transactions contemplated to be undertaken by the Independent Fiduciary in this Commitment Agreement.
- 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 consummation of the transactions contemplated to be undertaken by the Independent Fiduciary in this Commitment Agreement. This Commitment Agreement has been duly executed and delivered by the Independent Fiduciary and is 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 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 Contract 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 Insurer in connection with the transactions contemplated by this

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- Commitment Agreement and the Contract (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 Insurer, 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 sole 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 Contract satisfy the ERISA Requirements, (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 Insurer, 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 the Contract and any amounts required pursuant to paragraphs 1.d.iv., 3.c. and 3.d. 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 & Benefits LLC (“Mercer”), and its counsel, K&L Gates LLP, to serve as an independent fiduciary in connection with the transactions contemplated by this Commitment Agreement and Contract, and it is independent of the Company and Insurer within the meaning of 29 C.F.R. § 2570.31(j). The Independent Fiduciary has ensured that Mercer has established commercially reasonable ethical walls between the personnel working on the transactions contemplated in the Commitment Agreement and the Contract and the personnel working on other matters involving the Company, Insurer or any of their respective affiliates.
 - i. ERISA Related Determinations.
 1. The Independent Fiduciary has selected Insurer to issue the Contract as set forth in this Commitment Agreement and such selection, the transactions contemplated by this Commitment Agreement, including the purchase of the Contract, 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 Annuity Committee.
 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

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representations in paragraphs 7.a.vi and 7.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).
 - ii. Litigation. There is no action pending or, to the Independent Fiduciary’s Knowledge, threatened against 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.
 - iii. 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 Contract for which any other party, or its respective affiliates or representatives, could be liable.
8. **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;
 - 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); and
 - c. Each of the representations and warranties of each of the other parties set forth in paragraph 7 shall be true and correct in all material respects as of the Commitment Agreement Date and as of the Premium Due Date.
9. **Definitions**. For purposes of this Commitment Agreement, the following defined terms will have the following meanings:
 - a. “Annuity Committee” means the named fiduciary under the Plan with authority to appoint an independent fiduciary in connection with an annuity purchase transaction.
 - b. “AAA” is defined in Schedule 4.
 - c. “Annuity Start Date” means May 1, 2019.
 - d. “Approved Firm” is defined in Schedule 4.

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- e. “Asset Market Value” means (i) the close-of-market Fair Market Value of a Schedule 2 Asset as of the close of business on the Business Day prior to the Commitment Agreement Date, *plus* (ii) accrued interest on such Schedule 2 Asset as of the close of business on the Business Day prior to the Commitment Agreement Date. [***]. [***].
- f. “Authorized Persons” is defined in paragraph 12.d.
- g. “Base File” means the data file titled “[***]”, provided on behalf of the Company to Insurer via email with a link to a secure website at 3:11 p.m. eastern time on January 7, 2019.
- h. “BlackRock” is defined in paragraph 7.8.vi.
- i. “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.
- j. “Call Center” is defined in paragraph 6.b.
- k. “Cash” means a wire transfer, through the Federal Reserve System, of currency of the United States of America.
- l. “Check Register” is defined in Schedule 7.
- m. “Code” means the Internal Revenue Code of 1986 and the applicable Treasury Regulations issued thereunder.
- n. “Commitment Agreement” is defined in the preamble.
- o. “Commitment Agreement Date” is defined in the preamble.
- p. “Company” is defined in the preamble.
- q. “Company Contact” is defined in paragraph 6.b.
- r. “Contract” is defined in the preamble.
- s. “Cut-Off Time” means 1:00 p.m. eastern time on the Premium Due Date.
- t. “Data Corrections” is defined in Schedule 8.
- u. “Data Load File” is defined in Schedule 7.
- v. “Data Load File Sign-Off” is defined in Schedule 7.
- w. “Eligible Asset” means a Schedule 2 Asset (i) that [***], and (ii) to which the Plan Trust has valid title, free and clear of all Liens, other than Permitted Liens on the Premium Due Date at the time of transfer.
- x. “Enforceability Exceptions” is defined in paragraph 8.a.ii.
- y. “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.
- z. “ERISA Requirements” means all of the applicable requirements of ERISA and applicable guidance promulgated thereunder, including Interpretive Bulletin 95-1.
- aa. “Fair Market Value” means the fair market value as of the applicable date for a Schedule 2 Asset in an amount equal to the fair market value as of such date for such Schedule 2 Asset as indicated (i) by the primary pricing source set forth in the table below that corresponds to the applicable asset class of such Schedule 2 Asset, (ii) if such primary pricing source is not available or no fair market value is indicated by such primary pricing source for such Schedule 2 Asset, by the secondary pricing source set forth in the table below that corresponds to the applicable asset class of such Schedule 2 Asset, or (iii) if neither such primary nor secondary pricing source is available or no fair market value is indicated by either such source for such Schedule 2 Asset, by the tertiary pricing source, if any, set forth in the table below that

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corresponds to the applicable asset class of such Schedule 2 Asset. For any applicable pricing source, the [***] will be used.

Asset Class	Primary Pricing Source	Secondary Pricing Source	Tertiary Pricing Source
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]

- bb. “Final Annuity Quote Sheet” is defined in paragraph 1.b.
- cc. “Final Production Data File” is defined in Schedule 7.
- dd. “GAC Issuance Data” is defined in paragraph 1.d.i.
- ee. “GAC Issuance Data Notice Date” is defined in paragraph 1.d.i.
- ff. “GAC Issuance True-Up Premium” is defined in Schedule 8.
- gg. [***].
- hh. “IF Engagement Letter” means the Engagement Letter dated December 6, 2018 between the Annuity Committee and the Independent Fiduciary appointing Independent Fiduciary to act as an independent fiduciary in connection with an annuity purchase.
- ii. “Indemnified Party” is defined in paragraph 10.
- jj. “Independent Fiduciary” is defined in the preamble.
- kk. “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 Insurer after the Commitment Agreement Date that would cause the selection of Insurer 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 Insurer and the Plan’s purchase of the Contract to fail to satisfy ERISA Requirements.
- ll. [***].
- mm. “Insurer” is defined in the Preamble.
- nn. “Interim Asset Cash Flows” means, with respect to the Transferred Assets, the aggregate amount paid by the issuer of each asset to the record owner as of any day during the period from and including the Commitment Agreement Date and to but excluding the date that the Premium Due Date Transfers occur, (i) with respect to any coupon, *plus* (ii) with respect to cash flows received on such assets, including but not limited to principal payments, principal redemptions and tender offers but not including coupons described in clause (i). Interim Asset Cash Flows will not include any payments made with respect to any Transferred Assets that were due prior to the Commitment Agreement Date and any other cash flows not principal- or interest-related (such as class action payment receipt and litigation payment) relevant to events occurring prior to the Commitment Agreement Date. For purposes of paragraph 3.b, which relates to “Schedule 2 Assets” instead of “Transferred Assets,” the reference in this definition to “Transferred Assets” shall instead refer to “Schedule 2 Assets.” [***].
- oo. “Knowledge” means actual knowledge after making appropriate inquiry.

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- pp. “Lien” means any lien, mortgage, security interest, pledge, deposit, encumbrance, restrictive covenant or other similar restriction.
- qq. “Mid Price” means, for any applicable pricing source set forth in the definition of Fair Market Value, the mid price as provided by the pricing source.
- rr. [***].
- ss. “Modified GAC Form” is defined in paragraph 2.
- tt. “NDA” is defined in paragraph 11.b.
- uu. “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.
- vv. “Payee” means any payee under the Contract, including annuitants, contingent annuitants, alternate payees and beneficiaries, as applicable.
- ww. “Permitted Liens” means:
 - i. any Liens created by operation of law in respect of restrictions on transfer of securities (other than restrictions relating to the transfer of a Transferred Asset on the Premium Due Date in violation of applicable law); or
 - ii. with respect to any Transferred Asset, any transfer restrictions or other limitations on assignment, transfer or the alienability of rights under any indenture, debenture or other similar governing agreement to which such assets are subject (other than restrictions relating to the transfer of such an asset on the Premium Due Date in violation of any such restriction).
- xx. “Plan” is defined in the preamble.
- yy. “Plan Asset” means an asset of the Plan within the meaning of ERISA.
- zz. “Plan Governing Documents” is defined in paragraph 8.b.iii.
- aaa. “Plan Trust” means the Weyerhaeuser Company Master Retirement Trust.
- bbb. “Plan Trustee” means The Bank of New York Mellon in its capacity as trustee for the Plan Trust.
- ccc. “Preliminary Production Data File” is defined in Schedule 7.
- ddd. “Premium Amount” is defined in paragraph 3.
- eee. “Premium Due Date” means [***].
- fff. “Premium Due Date Transfers” is defined in paragraph 3.
- ggg. “Projected RBC Ratio” means, as of the day of determination, the projection of the RBC Ratio as of [***].
- hhh. “Proposal” is defined in paragraph 1.b.
- iii. “RBC Ratio” means the company action level risk-based capital ratio of Insurer, which will be calculated in a manner consistent with the requirements and methodologies prescribed under Iowa law, as applied by Insurer in the ordinary course of its business, consistent with its historic practice.
- jjj. “Schedule 2 Asset” means each asset listed from time to time on Schedule 2, [***].
- kkk. “Scheduled GAC Issuance Date” means on or before the date that is [***] Business Days after the Commitment Agreement Date 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, or such later date agreed upon by the Company and Insurer.
- lll. “SEC” is defined in paragraph 4.b.
- mmm. “Specimen GAC Form” is defined in paragraph 1.a.

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- nnn. “Transferred Asset” means each Eligible Asset transferred to and received by Insurer by the Cut-Off Time on the Premium Due Date. Until valid title to an Eligible Asset has transferred to Insurer, such asset is not a Transferred Asset.
- ooo. “Transferred Asset Market Value” means (i) the close-of-market Fair Market Value of a Transferred Asset as of the close of business on the Business Day prior to the Commitment Agreement Date, *plus* (ii) accrued interest on such Transferred Asset as of the close of business on the Business Day prior to the Commitment Agreement Date.
- ppp. “Transferred Asset Valuation” means the sum of the Transferred Asset Market Value for each Transferred Asset.
- qqq. “Update File” is defined in Schedule 7.
- rrr. “Welcome Kit” is defined in paragraph 5.a.
- sss. “Welcome Kit Mailing Date” is defined in paragraph 5.a.

10. Indemnification by Insurer.

From and after the Premium Due Date, Insurer agrees to indemnify, defend and hold the Company, the Independent Fiduciary, and the Plan, and their respective affiliates, officers, directors, stockholders, employees, Plan fiduciaries, agents and other representatives (each, an “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 Indemnified Party by a third party that is threatened or brought against or that involves an Indemnified Party and that arises out of or relates to (a) any breach by Insurer of a representation, warranty or covenant under this Commitment Agreement or the Contract, or (b) any failure by Insurer to make, or cause to be made, any payments required to be made by Insurer pursuant to the Contract or the annuity certificates.

11. 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, and the NDA together constitute 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.

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- b. Notwithstanding anything to the contrary in the Mutual Non-Disclosure Agreement, dated as of October 31, 2018, among the Company, [***] (the “NDA”), (i) nothing in this Commitment Agreement or the NDA shall be construed to prohibit Insurer, the Company, the Plan, or the Independent Fiduciary from [***], and (ii) Insurer will not be required to return or destroy any Confidential Information (as defined in the NDA) 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 Insurer will use such Confidential Information only in compliance with all applicable laws relating to privacy of personally identifying information and only for purposes of performing its obligations under this Commitment Agreement and the Contract.
- c. 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 may 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 seek 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.
- d. Notices. All notices, requests and other communications to any party hereunder shall be in writing (including electronic transmission) and shall be given:

- i. if to Insurer:

- Athene Annuity and Life Company
450 Lexington Avenue
New York, NY 10017

- [***]

- [***] (with a copy by first class mail to the address above)

- with a copy (which shall not constitute notice) to:

- Athene Holding Ltd.
2121 Rosecrans Avenue, Suite 5300
El Segundo, CA 90245

- [***]

- [***]

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ii. if to the Company:

Weyerhaeuser Company
220 Occidental Ave. S.
Seattle, WA 98104

[***]

[***] (with a copy by first class mail to the address above)

with a copy (which shall not constitute notice) to:

Frost Brown Todd
150 3rd Avenue South
Suite 1900
Nashville, TN 37201

[***]

[***] (with a copy by first class mail to the address above)

iii. If to Independent Fiduciary:

State Street Global Advisors Trust Company
1 Iron Street
Boston, MA 02210

[***]

[***] (with a copy by first class mail to the address above)

with a copy (which shall not constitute notice) to:

K&L Gates LLP
K&L Gates Center
210 Sixth Avenue
Pittsburgh, PA 15222-2613

[***]

[***] (with a copy by first class mail to the address above)

or such other address or email address as such party may hereafter specify for the purpose by notice to the other parties hereto. All such notices, requests and other communications shall be deemed received on the date of receipt by the recipient thereof if received prior to 5:00 p.m. on a Business Day in the place of receipt. Otherwise, any such notice, request or communication shall be deemed to have been received on the next succeeding Business Day in the place of receipt.

e. Insurer 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

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relating to privacy, data security and protection and the safeguarding of such information, and its maintenance, disclosure and use. Insurer will maintain administrative, technical and physical safeguards to protect the privacy and security of the confidential information related to Payees in its custody or under its control. Insurer will comply in all material respects with any internal written policies relating to the confidential information of any Payee in its custody or under its control as in effect from time to time. Insurer acknowledges that it is solely responsible from and after the Commitment Agreement Date for any Data Breach. For purposes of this paragraph 11.e., "Data Breach" means any act or omission by Insurer or its agents, subcontractors or service providers ("Authorized Persons") that compromises either the security, confidentiality or integrity of Payee data in its custody or under its control or the physical, technical, administrative or organizational safeguards put in place by Insurer (or any Authorized Persons) that relate to the protection of the security, confidentiality or integrity of any personally identifying information of any Payee in its custody or under its control.

- f. Insurer, 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 11.f. will be null and void from the outset, without any effect whatsoever.
- g. 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.

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[***]

IN WITNESS WHEREOF, the Company, Insurer, and the Independent Fiduciary have executed this Commitment Agreement as of the date first written above.

Weyerhaeuser Company

By: /s/ Russell Hagen
Print Name: Russell Hagen
Title: SVP, CFO

Athene Annuity and Life Company

By: /s/ Sean Brennan
Print Name: Sean Brennan
Title: Head of Pension Risk Transfer

*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

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:

[*]**

**Schedule 1
to
Commitment Agreement**

MODIFIED GAC FORM

Attached

**Schedule 1 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL**

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:
 [***]

Group Annuity Contract

Athene Annuity and Life Company
7700 Mills Civic Parkway
West Des Moines, Iowa 50266-3862

Contract-Holder: [ABC Company]	Plan: [Pension Plan of ABC Company] Trust: [XYZ Trust]
Group Annuity Contract No.: [123456]	Jurisdiction: [Ohio]
Effective date: [12/01/2017]	Contribution Amount as of Effective Date: \$[999,999] Contribution Adjustment Amount: [None, as of 12/01/2017] Total Contribution Amount as of [Date]: \$[999,999]
Pages Attached: 1-[Z], Cash and Transferred Assets Exhibit and Annuity Exhibits	

[ABC Company]
123 Anywhere St.
Small Town, VA 12345]

By: _____
 Print Name: _____
 Title: _____
 Date: _____

ATHENE ANNUITY AND LIFE COMPANY
 7700 Mills Civic Parkway
 West Des Moines, Iowa 50266-3862

By: _____
 [Name]
 Title: [President]
 By: _____
 [Name]
 Title: [Secretary]
 Date: _____

Single-Premium Non-Participating Group Annuity Contract supported by the Separate Account and the General Account, as provided herein, and providing for an irrevocable commitment to make 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 allocated to the Separate Account or the General Account.

Group Annuity Contract supported by a Dedicated Separate Account

[***]

501988675 v5

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:
 [***]

TABLE OF CONTENTS

PROVISION I	DEFINITIONS, SEPARATE ACCOUNT OPERATIONS, AND TERMINATION OF CONTRACT	1
1.1	Definitions	1
1.2	Agreement to Pay Contribution Amount; Deposit into the Separate Account	5
1.3	Agreement to Make Annuity Payments	6
1.4	The Separate Account that Supports this Contract	6
1.5	Investments Held in Separate Account	6
1.6	Insulation of Separate Account Assets	7
1.7	Expenses; Establishing Reserves; Withdrawal of Assets from the Separate Account	7
1.8	Process for Making Annuity Payments	8
1.9	Rights of Covered Lives and Contingent Lives	8
1.10	Termination of Contract	8
1.11	Small Account Conversion	8
PROVISION II	PAYMENT TERMS AND CONDITIONS FOR FORMS OF ANNUITIES	9
2.1	Covered Lives, Contingent Lives, and Beneficiaries	9
2.2	Annuity Forms	9
2.3	No Assignment by Covered Lives and Contingent Lives	20
2.4	Proof of Continued Existence for Life Annuities; Escheatment	20
2.5	Misstatements	21
2.6	Overpayments and Underpayments	21
2.7	Concerning Designations	22
2.8	Concerning Qualified Domestic Relations Orders	23
2.9	Payments to Representatives	24
2.10	Certificates	24
PROVISION III	GENERAL TERMS	24
3.1	General Understanding	24
3.2	Confidentiality	24
3.3	Communications	25
3.4	Currency; Payments	25
3.5	Reliance on Records; Correction of Errors	25
3.6	Contract-Holder	26
3.7	No Implied Waiver	26
3.8	Changes	26
3.9	Limitation on Payments	27
3.10	Consideration; Entire Contracts - Construction	27
3.11	Third Party Beneficiaries	27

CASH AND TRANSFERRED ASSETS EXHIBIT

ANNUITY EXHIBITS

Group Annuity Contract supported by a Dedicated Separate Account

[***]

501988675 v5

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:
[***]

[GA-[123456]

[ABC Company]
ANNUITY EXHIBIT

Covered Lives
Annuity Commencement Date: [December 1, 2017]
Annuity Form: Life

Covered Life	Covered Life Social Security Number	Covered Life Gender	Covered Life Date of Birth	Covered Life Amount	[Lump Sum Death Benefit Amount]	[Month of Increase]	[COLA Percentage]
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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:

[***]

Schedule 2
to
Commitment Agreement

[***]

Attached

Schedule 2 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

***]

Schedule 3
to
Commitment Agreement

***]

Attached

Schedule 3 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

[***]

Schedule 4
to
Commitment Agreement

ARBITRATION DISPUTE RESOLUTION

1. Availability of Arbitration. Arbitration is available as a means of dispute resolution only to the extent the Commitment Agreement explicitly states that the Company or Independent Fiduciary may commence arbitration in accordance with this schedule. Absent such explicit authorization, arbitration is not available.
2. Rules and Procedures. Where this Commitment Agreement explicitly states that arbitration is available as a means of dispute resolution for a dispute between the parties, such dispute 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 parties.
3. 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.
4. Arbitrator. The parties shall jointly engage a mutually agreed upon firm to serve as the arbitrator (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 parties 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.
5. Damages. The arbitrator shall resolve any arbitration dispute within the range of difference between (a) any amounts or values as calculated or determined by Insurer and (b) any amounts or values as calculated or determined by the Company. The arbitrator will have no authority to award any other damages other than as provided for herein.
6. Judgment. Any arbitration award shall be final and binding on the parties. The parties shall 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 parties, as applicable, or their respective assets.
7. Costs. The Company and Insurer shall share the fees and disbursements of the arbitrator equally (i.e., on a 50%/50% basis). The parties shall each bear their own costs and expenses incurred in connection with prosecuting and/or defending any arbitration dispute.
8. [***].
9. Amended Schedules. If applicable, the parties will promptly amend the schedules hereto to reflect any arbitration decision.

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:
[***]

Schedule 5
to
Commitment Agreement

[***]

[***] [***]	[***] [***]	[***] [***]	[***] [***] [***]	[***] [***] [***]
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Schedule 5 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

[***]

**Schedule 6
to
Commitment Agreement**

INVESTMENT MANAGERS AND INVESTMENT ADVISERS

None.

**Schedule 6 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL**

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:
[***]

Schedule 7
to
Commitment Agreement

ADMINISTRATION AND TRANSFER

This Schedule 7 sets forth the actions that the Company and Insurer 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.

"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.

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:

***]

Deliverable	Delivery Date	Action by the Company/Plan	Action by Insurer
Preliminary Production Data File	January 30, 2019	Delivery Preliminary Production Data File	Receive and reconcile Preliminary Production Data File to begin data cleanse and data mapping
Check Register (as of February 1, 2019)	January 30, 2019	Deliver Check Register	Receive Check Register
Final Production Data File	March 15, 2019	Deliver Final Production Data File	Receive Final Production Data File
Check Register (as of April 1, 2019)	March 19, 2019	Deliver Check Register	Receive Check Register
Update File	April 1, 2019	Deliver Update File	Receive Update File
Update File	April 22, 2019	Delivery Update File	Receive Update File

Schedule 7 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

[***]

**Schedule 8
to
Commitment Agreement**

GAC ISSUANCE TRUE-UP PREMIUM

This Schedule 8 provides a description of the methodologies and procedures by which Insurer will calculate the GAC Issuance True-Up Premium.

[***].

[***]. [***]. [***].

[***]. [***].

- a. [***];
- b. [***];
- c. [***];
- d. [***];
- e. [***];
- f. [***];
- g. [***];
- h. [***]; or,
- i. [***].

[***]. [***].

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:
[***]

[***]. [***]. [***]. [***]. [***]. [***].

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:
[***]

Schedule 9
to
Commitment Agreement

HISTORICAL MORTALITY DATA

The data file titled [***], provided on behalf of the Company to Insurer via email with direction to a secure website at 9:53 a.m. eastern time on January 9, 2019.

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:

***]

Schedule 10
to
Commitment Agreement

STATE INSURANCE GOVERNMENTAL AUTHORITIES

1. Arkansas
2. Connecticut
3. Florida
4. Georgia
5. Idaho
6. Iowa
7. Louisiana
8. Maryland
9. Massachusetts
10. Minnesota
11. Mississippi
12. Montana
13. New Hampshire
14. Ohio
15. Oklahoma
16. South Dakota
17. Vermont
18. Washington
19. West Virginia
20. District of Columbia
21. Puerto Rico

Schedule 10 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

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:

Schedule 11
to
Commitment Agreement

***	***
***	***
***	***
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***	***
***	***
***	***
***	***
***	***
***	***

Schedule 11 to Commitment Agreement, dated January 23, 2019
CONFIDENTIAL

WEYERHAEUSER COMPANY AND SUBSIDIARIES

Name	State or Country of Incorporation
Weyerhaeuser Timber Operations I, L.L.C.	Delaware
Weyerhaeuser NR Company	Washington
B&C Water Resources, LLC	Delaware
D&E Water Resources, LLC	Delaware
Greenway Properties, LLC	Maine
Highland Mineral Resources, LLC	Delaware
King Road Aggregates LLC	Delaware
ver Bes' Insurance Company	Vermont
Weyerhaeuser Asset Management LLC	Delaware
Weyerhaeuser Realty Investors, Inc.	Washington
Weyerhaeuser International, Inc.	Washington
Weyerhaeuser (Asia) Limited	Hong Kong
Weyerhaeuser China, Ltd.	Washington
Weyerhaeuser Company Limited	Canada
317298 Saskatchewan Ltd.	Saskatchewan
Weyerhaeuser (Carlisle) Ltd.	Barbados
Camarin Limited	Barbados
Weyerhaeuser Japan Ltd.	Japan
Weyerhaeuser Japan Ltd.	Delaware
WREDCO I LLC	Delaware
WREDCO II LLC	Delaware
Weyerhaeuser SC Company	Washington
Weyerhaeuser Services, Inc.	Delaware
Weyerhaeuser WPF LLC	Washington
WY Carolina Holdings LLC	Delaware
WY Georgia Holdings 2004 LLC	Delaware
WY Tennessee Holdings LLC	Delaware

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Weyerhaeuser Company:

We consent to the incorporation by reference in the registration statement (No. 333-225502 on Form S-3 and Nos. 333-209617, 333-183980, 333-182810, 333-188256, 333-182224 on Form S-8) of Weyerhaeuser Company of our reports dated February 15, 2019, with respect to the consolidated balance sheets of Weyerhaeuser Company as of December 31, 2018 and 2017, and the related consolidated statements of operations, stockholders' equity, cash flows, and comprehensive income for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of December 31, 2018, which reports appear in the December 31, 2018 annual report on Form 10-K of Weyerhaeuser Company.

/s/ KPMG LLP

Seattle, Washington
February 15, 2019

**Certification Pursuant to Rule 13a-14(a)
Under the Securities Exchange Act of 1934**

I, Devin W. Stockfish, certify that:

1. I have reviewed this annual report on Form 10-K of Weyerhaeuser 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(s) 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.
5. The registrant's other certifying officer(s) 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 that 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.

Date: February 15, 2019

/s/ DEVIN W. STOCKFISH

Devin W. Stockfish
President and Chief Executive Officer

**Certification Pursuant to Rule 13a-14(a)
Under the Securities Exchange Act of 1934**

I, Russell S. Hagen, certify that:

1. I have reviewed this annual report on Form 10-K of Weyerhaeuser 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(s) 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.
5. The registrant's other certifying officer(s) 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 that 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.

Date: February 15, 2019

/s/ RUSSELL S. HAGEN

Russell S. Hagen
Senior Vice President and Chief Financial Officer

**Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned officers of Weyerhaeuser Company, a Washington corporation (the "Company"), hereby certifies that:

The Company's Annual Report on Form 10-K for the year ended December 31, 2018 and dated February 15, 2019 (the "Form 10-K") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ DEVIN W. STOCKFISH

Devin W. Stockfish

President and Chief Executive Officer

Date: February 15, 2019

/s/ RUSSELL S. HAGEN

Russell S. Hagen

Senior Vice President and Chief Financial Officer

Date: February 15, 2019