
PACKAGING CORPORATION OF AMERICA
2018
RESPONSIBILITY REPORT

Packaging Corporation of America

is an ideas and solutions company. Our Packaging segment is known for its expertise in the manufacturing and sales of containerboard and corrugated products, and our Paper segment (Boise Paper) produces and sells consumer-brand office and business papers. Together, we are focused on bringing value to a growing number of customers around the world.

PCA is a large company with a small-company feel. As a result of strategic planning and positioning, our customers enjoy wide-ranging resources and economies of scale, as well as responsive service in the right place at the right time.

Table of Contents

People
Customers
Trust

When you choose Packaging Corporation of America, you work with ***people*** who do the right things for each other and for our ***customers.*** We believe in utilizing the power of strong collaborative relationships, bound by the ***trust*** we have earned, to deliver innovative packaging solutions and an outstanding service experience.

EXECUTIVE STATEMENT

June 28, 2019

We are pleased to share with you and all of Packaging Corporation of America's stakeholders, our second annual Responsibility Report.

At PCA, we have always taken a long-term view when it comes to running our business. Our time, effort and financial investments are focused on actions that offer enduring value and wide relevance. PCA is one of the leading suppliers of packaging and paper solutions in North America. Our company is proud to be a significant part of the global paper and packaging industry that has for more than 100 years operated an increasingly circular system. PCA's products and entire manufacturing process—from trees, to paper and packaging—are truly renewable, recyclable and sustainable.

PCA is a strong and vibrant company. As we continue to grow, we regularly recalibrate our business strategies including those related to corporate responsibility. Our approach to social, environmental and economic responsibility begins with our commitment to serving our customers and our employees. The in-depth information published in our inaugural Responsibility Report helped us position PCA to take further, positive action.

We believe we succeed through our people and we continue to strive to make PCA an employer of choice. PCA is committed to providing a safe work environment for all our employees. We also believe that investing in training and education for our employees enhances their professional and personal growth, while at the same time creating value for our customers and our company. Looking to the future, we are actively investing time and resources to attract and retain the next generation of the PCA team.

PCA is one of the few companies in the industry that produces containerboard from primarily first-use (virgin) fiber. This steady infusion of new wood-fiber into the paper-based packaging cycle is essential for sustainability in our industry. Without it, our industry would run out of viable raw material for containerboard and corrugated packaging production. In our mills and our box plants, our dedicated engineering teams have a history of designing and executing capital projects that not only have positive economic returns for the company, but also reduce the environmental footprint of our operations.

Among our major accomplishments in 2018 was the completion of the #3 paper machine conversion at our mill in Wallula, Washington. This significant project, which began in 2017, was completed on time, to specification and on budget. To our knowledge, it is now the only gap-former machine in the world capable of producing Kraft linerboard to the strength required by the most demanding packaging applications. The #3 machine at Wallula is now capable of producing 400,000 tons per year of high-performance linerboard that will support the packaging needs of our expanding customer base.

We are also proud to report that in 2018 all PCA mills and full-line packaging operations accomplished the appropriate standards of the Forest Stewardship Council® (FSC®). In addition, PCA completed its first CDP (formerly the Carbon Disclosure Project) - Climate filing. These achievements are further evidence of PCA's unwavering commitment to ensuring the long-term health of the natural resources on which we all depend.

Mark Kowlzan
Chairman and CEO

Within our Responsibility Report, you will find a robust picture of PCA's ongoing efforts to support our employees, engage with our communities, be responsible stewards of the environment and provide leading financial returns to our shareholders. PCA has a long tradition of earning and keeping the trust of our customers, our employees, our suppliers and the people in the many communities where we live and work. We pledge to continue to pursue opportunities that provide sustainable and responsible growth, well into the future. We appreciate your continued interest in our progress toward our shared goals.

Sincerely,

Mark Kowlzan
Chairman and Chief Executive Officer

GENERAL DISCLOSURES

Organizational Profile
Strategy
Ethics & Integrity
Governance
Stakeholders & Materiality

GRI 102 General Disclosures

102-1 Name of the Organization
Packaging Corporation of America

102-2 Activities, Brands, Products, and Services
PCA produces paper and packaging products. We are vertically-integrated, operating mills that produce containerboard and white papers, corrugated products manufacturing plants and related operations. The company's two primary business units are "packaging" and "paper."

Our containerboard mills produce kraft linerboard and semi-chemical corrugating medium, which are papers primarily used in the production of corrugated products. Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products, including conventional shipping containers used to protect and transport manufactured goods, multi-color boxes and displays with strong visual appeal that help to merchandise the packaged product in retail locations as well as honeycomb protective packaging. In addition, we are a large producer of packaging for meat, fresh fruit and vegetables, processed food, beverages and other industrial and consumer products.

We manufacture and sell cut-size office papers and printing and converting papers. These include both commodity and specialty papers which may have custom or specialized features such as colors, coatings, high brightness and recycled content.

102-3 Location of Headquarters
Packaging Corporation of America (PCA) is located at:
1 North Field Court
Lake Forest, IL 60045 USA

102-4 Location of Operations
Substantially all of PCA's operations and employees are located in the United States of America. Therefore, for purposes of this report, we deem our significant operations to be located in the USA, due to our corporate, employee, sales and production footprint.

102-5 Ownership and Legal Form
Packaging Corporation of America is publicly held. It is incorporated in the State of Delaware, U.S.A. and its common stock is listed on the New York Stock Exchange under the symbol "PKG".

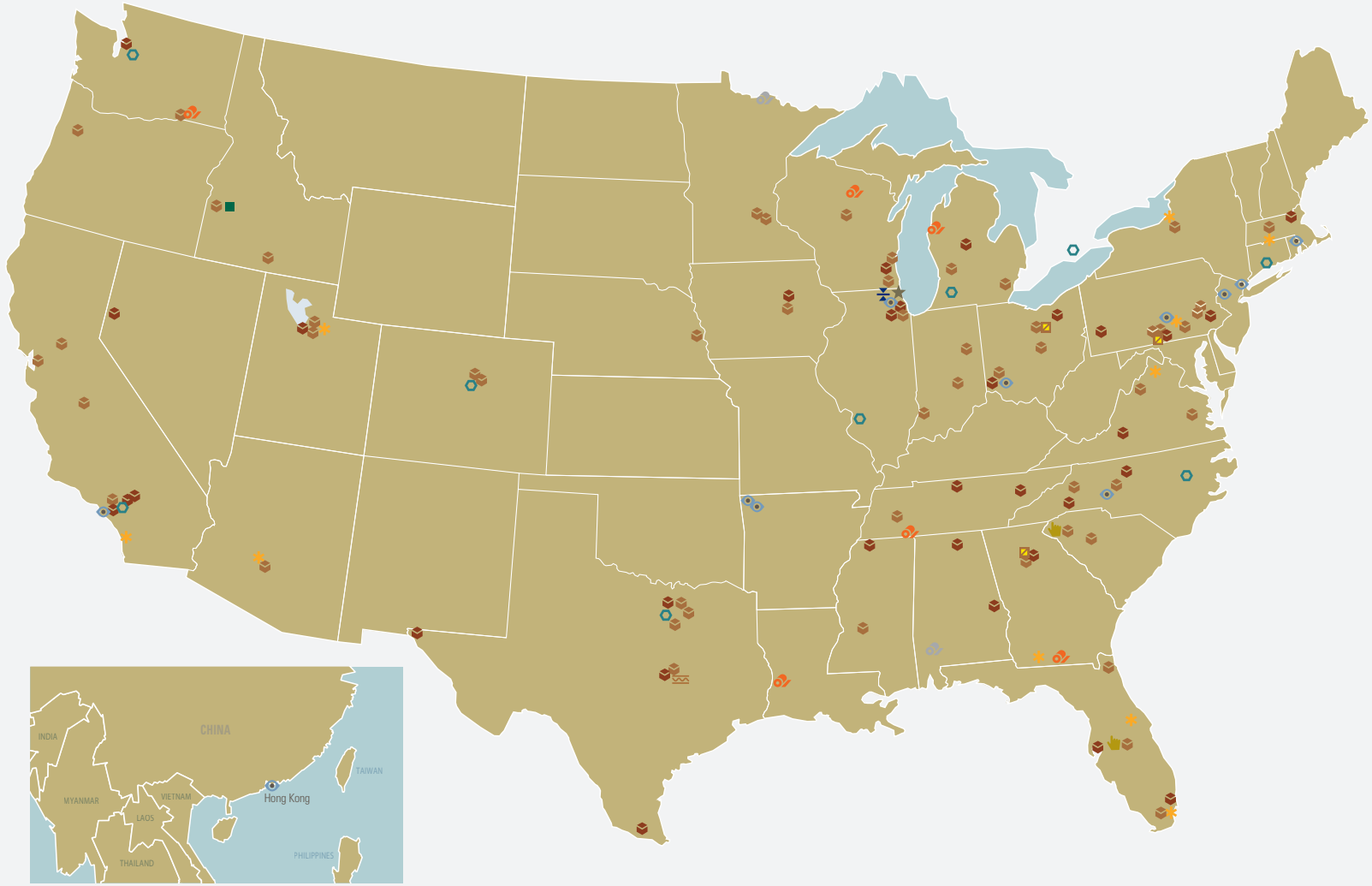
102-6 Markets Served
Packaging Customers
PCA operates primarily in the United States and sells containerboard and corrugated products to over 18,000 customers in more than 36,000 locations. The majority of our corrugated products sales are to regional and local accounts which are broadly diversified across industries and geographic locations. The remainder of our customer base consists primarily of national accounts that have multiple locations and are served by a number of PCA plants. No single customer exceeds 10% of segment sales.

End Use of Corrugated Products in the USA	
Food, beverages and agricultural products	44%
Retail and wholesale trade	22%
Paper and other products	14%
Chemical, plastic and rubber products	10%
Miscellaneous manufacturing	10%

SOURCE: 2017 Fibre Box Association annual report

Paper Customers
As of the end of 2018, PCA had over 150 customers in approximately 450 locations. These customers included contract stationers, retailers, online marketplaces, paper merchants, commercial and financial printers, and envelope converters. Office Depot represents more than 45% of our paper segment volume by revenue.

102-7 Scale of the Organization



- Full-Line Plants
- Sheet/Specialty Plants
- Hexacomb Manufacturing
- Packaging and Supply Centers
- Sheet Feeder
- Creative Design Centers
- Fulfillment Centers
- Technical Center
- Containerboard Mills
- White Paper Mills
- Resource and Support Centers
- Administrative Offices
- Corporate Headquarters

102-7 Scale of the Organization (Continued)

Packaging

Our primary products are containerboard and corrugated packaging. We currently manufacture containerboard at six mills. In 2018 we produced approximately 4.1 million tons of containerboard. In 2017 we announced plans to cease producing white paper on the W3 paper machine at our Wallula, Washington mill and convert the machine to containerboard production. During the second quarter of 2018, the Company discontinued production of uncoated freesheet and coated one-side grades at the Wallula, Washington mill and converted the No. 3 paper machine to a virgin kraft linerboard machine. This conversion successfully increased our containerboard production capacity, specifically in high-performance linerboard.

Our containerboard mills are described below.

Counce TN. Our Counce mill produces kraft linerboard on two machines.

DeRidder LA. Our DeRidder mill produces corrugating medium and kraft linerboard on two machines.

Valdosta GA. Our Valdosta mill produces kraft linerboard on one machine.

Tomahawk WI. Our Tomahawk mill produces semi-chemical corrugating medium on two machines.

Filer City MI. Our Filer City mill produces semi-chemical corrugating medium on three machines.

Wallula WA. Our Wallula mill produces corrugating medium and kraft linerboard on two machines.

We operate 94 corrugated manufacturing operations, and related facilities to support these operations. Our corrugated manufacturing operations include corrugated plants which manufacture corrugated sheets and finished corrugated packaging products, sheet plants which procure combined sheets and manufacture finished corrugated packaging products as well as one corrugated sheet-only manufacturer.

White Paper

Our paper business produces uncoated freesheet in the United States, primarily for sale in North America. Brands sold under the BOISE PAPER name:

X-9® Multi-use Copy Paper
Aspen® Recycled Paper Line:
- Multi-use Copy Paper
- Premium Laser Paper
- Premium Color Copy Paper

Boise® Opaque and Offset

Boise Polaris® Premium Paper Line:
- Multipurpose Paper
- Inkjet Paper
- Laser Paper
- Color Copy Paper

Boise® Data and Office Label

Fireworx® Premium Multi-use Colored Paper

White Paper Production and Converting

At year end, we operated two white paper mills, with a total annual capacity of 1 million tons. Our bleaching processes are elemental chlorine free (ECF). The following describes our white paper mills:

Jackson AL. Our Jackson mill produces both commodity and premium papers on two paper machines.

International Falls MN. Our International Falls mill produces both commodity and premium papers on two paper machines.

Quantity of products/services provided

PRODUCTION AND SHIPMENTS	2018	2017	2016
Packaging			
Containerboard Production (thousand tons)[1]	4,081	3,881	3,736
Corrugated Product Shipments (billion SqFt)	59	56	51
White Paper (UFS)			
White Paper (UFS) Production (thousand tons)[1]	1,017	1,118	1,127
Market Pulp Production (thousand tons)[2]	0	0	45

[1] In May 2018, PCA ceased production of uncoated free sheet and coated one-side grades at our Wallula, Washington mill and converted the No. 3 machine to a virgin kraft linerboard machine.
[2] On December 1, 2016 PCA ceased production of softwood market pulp at our Wallula, Washington mill and permanently shut down the No. 1 machine.

102-8 Information on Employees and other Workers

2018 EMPLOYEES	14,950
Gender (US Only)	
Female	17%
Male	83%
Employment Mode	
Full Time	99.94%
Part Time	0.06%
Geographic Location	
USA	99.73%
Canada	0.16%
Hong Kong	0.11%

This information was derived from our internal systems.

Substantially, all PCA employees are full time. We use temporary labor, sourced from reputable staffing agencies, to help fill short-term needs primarily driven by the need to scale up operations due to customer demand. For example, in our packaging plants, short-term labor is often required due to a surge in customer orders, a customer's need to move up delivery dates or a need to accommodate labor intensive individual projects such as order fulfillment or assembly.

Very few of our significant operations encounter seasonality or extreme cyclicality in demand that would drive significant or frequent swings in numbers of shifts or other organizational changes that may impact our workforce.

102-9 Supply Chain

While PCA has a broad, national supply chain, it is simple, short and direct. Our mills' primary supply requirements are fiber, energy and chemicals; water is typically sourced on or adjacent to the mill site. Our packaging operations' primary requirements are containerboard (which we produce and, in some instances procure from other producers), as well as corn starch, caustic soda and other chemicals required to combine containerboard into corrugated sheets.

Fiber supply. Fiber is the most significant material required in the manufacturing of containerboard and white paper. We consume both first-use virgin wood fiber and recycled fiber in our containerboard and white paper mills. We are able to shift a portion of our fiber consumption between softwood, hardwood and recycled sources. All of our mills utilize first-use (virgin) wood fiber and all of our mills, other than Valdosta, utilize recycled fiber. Our corrugated manufacturing operations generate recycled fiber as a by-product from the manufacturing process, which is consumed by our mills. In 2018 our usage of recycled fiber, net of internal generation, represents 18% (measured as input) of our containerboard production. Sourcing and use of first-use fiber in North America is crucial to support the continuing availability of containerboard and corrugated globally – and enables PCA's provision of renewably-sourced packaging solutions. We procure first-use wood fiber through leases of cutting rights, long-term supply agreements and market purchases, and believe we have adequate sources of fiber supply.

PCA participates in the Sustainable Forestry Initiative® (SFI), the Programme for the Endorsement of Forest Certification (PEFC™), as well as the Forest Stewardship Council (FSC®)and is certified under their sourcing and chain-of-custody standards. These standards are aimed at ensuring the long-term health and conservation of forestry resources. Our Aspen line of office papers are certified to meet the Green Seal™ Standard GS-7, based on minimum 30% post-consumer content and industry standard performance, attesting to demonstrated effective quality and environmental systems. All of our office papers are USDA Biobased certified.

PCA is committed to sourcing wood fiber through environmentally, socially and economically sustainable practices and promoting resource and conservation stewardship ethics. In 2018 PCA accomplished certification to FSC in our Packaging Business – to include our woodlands, containerboard mills and full-line packaging plants.

Energy supply. Energy at our packaging mills is obtained through purchased and self-generated fuels and electricity. Fuel sources include natural gas, by-products of the containerboard manufacturing and pulping process (including black liquor and wood waste), purchased wood waste as well as other purchased fuels. Each of our mills self-generates process steam requirements from by-products (black liquor and wood waste) as well as from the various purchased fuels. The process steam is used throughout the production process as well as to generate electricity.

Chemical supply. PCA consumes various chemicals in the production of containerboard, including caustic soda and sulfuric acid. Caustic soda and borax are the predominant chemical needs in our packaging plants. Most of our chemicals are purchased directly from their producers under contracts.

102-10 Significant Changes to the organization

In 2018, PCA acquired two specialty corrugated products facilities located in the United States to further our growth strategy and improve our ability to serve our customers.

102-11 Precautionary Principle or Approach

PCA follows "precautionary approach" when developing and prior to offering new products. We seek to identify potential hazards and risk early in development, such that they can either be eliminated or assuredly managed to a level where they are acceptably mitigated for purposes of our customers, employees, communities and other stakeholders. Sensitivity to the impact that our products, their sourcing/production/provision may have on health, safety and the environment is a key underpinning of our sustainability strategy and objectives.

102-12 External Initiatives

CDP (formerly the Carbon Disclosure Project)
EcoVadis
Global Food Safety Initiative (GFSI)
Global Reporting Initiative (GRI)
How Life Unfolds campaign
Project-UP! In partnership with Arbor Day

102-13 Membership in Associations Organization

American Forest and Paper Association (AF&PA)
American Forest Resource Council
American Society for Quality (ASQ)
ASTM International
Corrugated Packaging Alliance (CPA)
Envelope Manufacturers Association (EMA)
Federal Water Quality Coalition
Fibre Box Association (FBA)
Forest Resources Association
Forest Stewardship Council® (FSC®)
Institute of Packaging Professionals (IoPP)
International Corrugated Case Association (ICCA)
International Corrugated Packaging Foundation (ICPF)
International Safe Transit Association (ISTA)
International Standards Organization (ISO)
National Council for Air &
Stream Improvement (NCASI)
National Fire Prevention Association
National Paper Trade Association (NPTA)
National Society for Human Resources Management
North American Forest Partnership
Programme for the Endorsement of
Forest Certification (PEFC™)
Pulp and Paper Safety Association (PPSA)
Recycled Paperboard Technical Association
Sedex
Society of American Foresters
Sustainable Forestry Initiative® (SFI)
Sustainable Packaging Coalition (SPC)
Technical Association of Pulp
& Paper Industry (TAPPI)
The Nature Conservancy
Two-Sides, North America

102-15 Key Impacts

PCA IMPACTS	FIBER SOURCING	PULP & PAPER MAKING	CONVERTING	SUPPORT, SERVICE, PROVISION	CUSTOMER USE	END-OF-LIFE, RECOVERY
Environment						
Materials	•	•	•			•
Energy		•	•			
Water		•	•			
Biodiversity	•	•				
Emissions		•	•			
Effluents & Waste		•	•			•
Environmental Compliance		•	•		•	•
Social						
Employment		•	•	•		
Labor Management	•	•	•	•		
Occupational Health & Safety	•	•	•	•		
Training & Education	•	•	•	•		
Diversity & Equal Opportunity		•	•	•		
Local Communities	•	•	•		•	•
Consumer Health & Safety	•	•	•		•	•
Economic						
Economic Performance	•	•	•	•	•	•
Procurement Practices	•	•	•	•		

Risks

For a full description of material risks that PCA sees potential for, please refer to pages 8 to 13 of our 2018 Annual Report and 10K.

Opportunities

As the world continues to develop economically, significant economic, social and environmental changes are inevitable. PCA believes that the combination of the trends we see (listed below) and their outcomes will drive strong and growing interest in sustainable living and development. For PCA, and our customers and prospects in particular, this is a key opportunity. While growing demand for packaging is an obvious outcome, what that packaging is made from and how it is manufactured will be a differentiator. PCA's position and strategy around development of packaging solutions from renewable, first-use wood fiber, manufactured substantially with energy self-supplied from renewable biogenic sources will advantage us as we strive to be both supplier and employer of choice.

Growing Global Demand/Pressure on Resources

With population growth and positive shifts in income will also come continuing increases in demand for products and services. Increased global demand will challenge available resources if adjustments in production of packaging, including in sourcing of materials and manufacturing energy, are not made.

Urbanization and Ecosystem Impacts

Continuing and worldwide human population migration from rural areas toward, or directly into, cities is resulting in significant land use shifts driven by development with resulting impacts on ecosystems and in land available for human food production.

Concerns Regarding Climate Change

In parallel to the growth of the global middle class, there is growing acknowledgement within the existing middle class of the pressure we humans and our preferred life-styles are placing on ecosystems. Further, that continuing expansion in use of combustion-powered transportation, building power, as well as heating and cooling is almost certainly causing higher atmospheric CO_2 levels. The global population is increasingly focused on the impacts of actions such as usage of fossil fuels on our climate, with impacts such as higher temperatures and rising sea levels.

Demand for Access and Disclosure

The combination of a more educated global population, accompanied by greater availability of information, has resulted in increasing demands for transparency into the values, operations and behaviors of businesses.

Accountability of Business

The increased visibility into how businesses operate accompanied by the ease and scale of communication made possible in an internet and social media era has made it increasingly possible for individual citizens to hold entities accountable for their actions (or inaction).

102-16 Values, principles, standards and norms of behavior

At PCA, ethics, integrity and lawful conduct are everyone's responsibility. Leadership on these key principles is provided by PCA's executive management team. View Statement of Business Principles

All of our employees, including all officers, are required to abide by PCA's Statement of Business Principles. Also, separate Codes of Ethics for our executive officers and principal accounting personnel, as well as our directors, are in place to help ensure that our business is conducted in a consistently legal and ethical manner.

These documents cover all areas of professional conduct, including employment policies, conflicts of interest, fair dealing and the protection of confidential information, as well as strict adherence to all laws and regulations applicable to the conduct of our business, including competition laws and regulations. The full text of our Statement of Business Principles and the Codes of Ethics are published on the Corporate Governance page of our website.

Communication of and Training of Employees on PCA's Business Principles

PCA's approach to communication and understanding of the Statement of Business Principles can be seen as the keystone training element that all managers and virtually all salaried employees are required to take and successfully complete. PCA requires acknowledgement and certification to the Statement of Business Principles as part of the salaried employee onboarding process and conducts periodic training and re-certification at least every two years.

PCA's compliance program involves training and certification on important areas within the Statement of Business Principles. Examples of topics covered include compliance with competition laws for sales and management employees, compliance with employment policies and regulations and avoiding conflicts of interest. PCA uses in-person as well as online training modules. Compliance with competition laws is of particular importance. PCA maintains a standalone Antitrust Compliance Guide and conducts training to sales and management personnel at regular intervals to assure compliance.

The company reviews the compliance program objectives and accomplishments at least quarterly with the audit committee of the board of directors.

102-17 Mechanisms for advice and concerns about ethics

If an employee has any question whether a proposed course of action is consistent with the law, the Statement of Business Principles or any other requirement, they are strongly encouraged to seek guidance before taking any action. In addition to speaking with their direct supervisor and others in the reporting chain, our employees may bring matters directly to the attention our legal department, our human resources department or our chief financial officer. Concerns may also be brought to the attention of the Audit Committee of PCA's Board of Directors including any questions, concerns or complaints our employees may have regarding accounting, internal accounting controls or auditing matters.

Employees may bring concerns to or seek advice on matters involving the Statement of Business Principles or other compliance related matters from, supervisors or other designated individuals, such as members of the legal department. Our Employees, Suppliers and Contractors may also communicate concerns confidentially by calling PCA's toll-free, 24-hour help line number: 1-877-643-8722 – or electronically at: www.pca.ethicspoint.com

Concerns may also be forwarded by mail to:
Compliance Officer
Packaging Corporation of America
c/o General Counsel
1 North Field Court
Lake Forest, Illinois 60045

All reports of suspected violations are promptly investigated on a confidential basis to the greatest extent possible. No employee will be subject to reprisal or retaliation for reporting in good faith a suspected violation, and all appropriate steps will be taken to keep confidential the identity of the reporting employee. Full cooperation is expected both from anyone who is suspected or accused of improper conduct and from anyone who makes accusations against someone else.

102-18 Governance Structure

PCA is governed by a board of directors. Each director serves a one-year term and stands for election at every annual meeting of stockholders.

The Board has three standing committees which include: Audit, Compensation, as well as Nominating and Governance. The Board elects PCA's Chairperson. PCA's current Chairman and Chief Executive Officer (CEO) is Mark Kowlzan. Our executive officers report to Mr. Kowlzan as CEO. PCA's executive officers are identified in PCA's annual report for 2018, and can be accessed at 2018 Annual Report and 10K.

Each standing committee is required to be comprised solely of independent directors (that is, directors who do not have a material relationship with PCA other than service as a director). Each committee is governed by a charter, which is available in the Investor Relations section of PCA's website.

Code of Ethics for Directors

As described above, our directors are subject to a Code of Ethics which requires compliance with legal requirements. Please read the policy here.

Executive Officers and Principal Accounting Personnel Code of Ethics

As described above, our executive officers and principal accounting personnel are subject to a Code of Ethics. In addition to provisions relating to compliance with laws and regulations set forth in the Statement of Business Principles, executive officers of PCA and the primary individuals at PCA who are directly responsible for financial reporting, must abide by our Policies, which can be found here.

102-45 Entities Included in Consolidated Statements

This report includes the entire scope of PCA including all fully-owned subsidiary organizations as listed in PCA's 2018 Annual Report and 10K.

102-41 Percentage of total employees covered by collective bargaining agreements

EMPLOYEES COVERED BY COLLECTIVE BARGAINING AGREEMENTS

USA	Total	In CBA	%
Salaried	4,495	0	0%
Hourly	10,455	6,691	64%
TOTAL	**14,950**	**6,691**	**45%**

As of 12/31/2018

102-40 List of Shareholder Groups Engaged

Customers
Employees
Shareholders and other capital providers
Neighbors (Community Members)
Landowners/Timber and Fiber Suppliers
Suppliers of other goods and services
Company Leadership

102-42 Basis for Identifying and Selecting Stakeholders with Whom to Engage
We identified stakeholders in PCA by determining which groups of people or entities are most likely to be influenced or impacted by our strategy, leadership, operations and behavior.

102-47 Material Topics
Our approach to surveying and research involved identifying each of the themes identified by GRI, as well as by SASB. From there we offered the opportunity for each prospective participant to force-rank these themes relative to how they viewed PCA's current or potential influence or impact on them. From the responses we collected, we merged these within their respective stakeholder group; this resulted in a ranking and "score" for each identified and subsequently ranked GRI and SASB topic for that stakeholder group. We then merged on a weighted basis, the results of each stakeholder group into one of two vectors, depending whether they are internal or external to PCA. Those results were then X-Y plotted to allow us to graphically determine which were "material" for the purposes of PCA reporting. Those themes that scored sufficient to be determined as "material" for this purpose are displayed in the graph below.

102-43, 44, Organization's approach to stakeholder engagement, including frequency, by type and by stakeholder group and an indication if undertaken specifically as part of report preparation process.
PCA frequently engages with our stakeholders, both in our normal course of business, as well as in executing our strategy of being the supplier, employer, customer, neighbor and investment-of-choice.

We have taken several approaches, as appropriate to support our materiality analysis. Those approaches in research and analysis of inputs, were determined by how readily available dependable input and information was reasonably available to support materiality determination. For certain stakeholder groups, known good and credible information was readily and publicly available. In these cases, we relied on indirect means of capturing input for purposes of materiality determination. Examples of this approach were in the cases of both customers and shareholders. In the case of shareholders/providers of capital to PCA, we chose to leverage the existing industry-specific research, findings and recommendations of SASB/Bloomberg for our industry. For many of PCA's larger customers, it was possible to deeply research and capture findings from their published statements, policies and existing sustainability/social responsibility reporting.

Material topics

Occupational Health & Safety
Consumer Health & Safety
Materials
Economic Performance
Environmental Compliance
Energy
Effluents & Waste
Training & Education
Water
Emissions
Employment
Local Communities
Procurement Practices
Diversity & Equal Opportunity

Labor/Management Relations
Biodiversity

In two other stakeholder situations we chose to use proxy-inputs, as we had a very high degree of confidence in them. We leveraged the deep and local experience of our foresters for input on topics of greatest importance to landowners/timber providers. We chose to directly query our employees, for their input on topics and issues of strong interest to the communities in which we operate in. This given that in virtually all cases, our employees are also neighbors of our operations and community members. Beginning in 2020, it is likely that we will continue to invest in direct, primary research with one or two additional stakeholder groups each subsequent year/report.

With the strategic importance we place on our people, we chose for this report to focus and invest most deeply in direct stakeholder research on the interests and concerns of our employees as well as our leadership. To assure we fully characterize how our employee stakeholders saw issues and themes, we cast a broad net, surveying and offering opportunities for input to a wide range of employees at six PCA packaging plants. To capture and characterize how the leadership of PCA views various themes, we also chose to directly survey 11 leaders within PCA in a range of functional and business responsibilities.

102-46 Report Content Topic Boundaries, Reporting Principles
Boundaries for topic disclosures were determined based on data relevance, data availability and overall materiality to our stakeholders. Topics' significance was determined for external stakeholders, including customers, suppliers and investors as explained earlier. We surveyed employees across our network to understand importance of several topics to our internal stakeholders. The topics we are reporting on represent evaluation of input from both internal and external stakeholders and includes those of significant importance to either group as well as items of meaningful importance to both.

102-48 Restatements of Information
Energy from wastewater residuals at a single mill was inadvertently underreported in 2017 by 0.56 million GJ. To fully assure the historical accuracy of our reporting, we have chosen to restate our energy production/consumption for reporting year 2017. This adjustment resulted in a 0.5% increase in overall energy consumption for 2017. Since these residuals are biogenic in source, the error did not have a material impact on GHG emissions (<0.01% of scope 1 emissions), and therefore were not adjusted or re-stated. Biogenic emissions increased 0.9% from what was reported previously and is adjusted accordingly in the emissions topic disclosure.

102-49 Changes in reporting
There have been no changes in reporting periods, material topics or topic boundaries.

102-50 Reporting Period
This report is based on PCA's Fiscal (Calendar) Year 2018.

102-51 Date of most recent report
This Responsibility Report, is issued June 28th, 2019. The previous report issued June 29th, 2018.

102-52 Reporting Cycle
PCA currently intends to report each fiscal/calendar year, with future reports being released on, or about June 30th of 2020 and each subsequent year.

102-53 Contact point for questions about the report
Please contact:
James Southwell, Director: Product Development, Quality and Responsibility
responsibility@packagingcorp.com, or at 1.847.482.2091

102-54 Claims of reporting in accordance with the GRI Standards
"This report has been prepared in accordance with the GRI Standards: Core Option"

102-55 GRI Content Index
Please see our Index, starting on page 44

102-56 External Assurance
We have not provided external assurance for this, PCA's second Responsibility Report. The information within and the underlying data has undergone thorough internal review.

ENVIRONMENT

301 *Materials*
302 *Energy*
303 *Water*
304 *Biodiversity*
305 *Emissions*
306 *Effluents & Waste*
307 *Environmental Compliance*

GRI 301 Materials

Wood fiber is the essential material used to make our products. PCA's mill systems utilize both first-use (virgin) fiber and recycled content. First-use fiber is sourced almost exclusively from the United States, with a fraction of one percent sourced from Canada (Ontario, and Manitoba).

Responsible and sustainable procurement of fiber is both a key policy and principle at PCA. This GRI Standard is the only topic in which the bounds of our response extend beyond PCA's owned and managed operations, to include supplying entities. To that end, PCA's commitment to practicing and supporting sustainable forestry and responsible wood fiber procurement is communicated both internally and externally. Internally, our Sustainable Forestry Policy is required to be posted at all manufacturing sites as part of our certification program, and is also readily available on our company intranet. Externally, all PCA approved wood suppliers receive our policy through an annual correspondence. PCA's Policy is incorporated by reference in our Terms and Conditions for the Purchase of Wood Fiber Goods in every transaction, and is available on our website.

PCA maintains our fiber procurement program in compliance with the Sustainable Forestry Initiative® (SFI) 2015-2019 Standard Requirements, the Forest Stewardship Council® (FSC®), the Programme for the Endorsement of Forest Certification (PEFC™) and recognizes the American Tree Farm System® (ATFS) individual and group certifications. Our program assures compliance with the certification standards and follows all applicable laws and regulations.

Our wood management system tracks and catalogs details of our wood and fiber sourcing, including county of origin. Prior to delivery, we assure that suppliers are adequately insured and incorporated. Once approved, and a purchase order has been submitted; PCA woodlands managers and foresters verify the accuracy of the information.

In 2018 our containerboard mills were successfully certified to FSC standards (FSC-C139165). With this certification, all PCA mills are now "triple-chain" certified. Shortly thereafter, our full-line corrugated plants were also certified to the FSC Chain of Custody standard (FSC-C140146). Like other integrated containerboard producers, we are challenged in running our recently certified system, as we are faced with a lack of certified FSC timber and first-use fiber availability in the United States.

Our packaging plants source containerboard and corrugated sheets. The majority of our containerboard comes from PCA mills or trade partners. To assure our containerboard and sheets come from non-controversial sources, all containerboard sourcing is controlled centrally by PCA's containerboard sales department (CBS). Sheet purchases are only allowed from CBS approved vendors. All of our corrugated plants are "dual-chain" certified to SFI® and PEFC chain of custody standards, with the exception of several recently acquired. At minimum, all PCA packaging plants are certified to SFI Certified Sourcing*, including our Hexacomb® facilities.

2018 Chain of Custody Certifications

	SFI	PEFC	FSC
Mills			
Containerboard	•	•	•
White Paper	•	•	•
Packaging Plants			
Full-line	•	•	•
Sheet Feeder	•	•	•
Sheet	•	•	

*Recently acquired sites are typically brought under our multi-site SFI Certified Sourcing certificate within one year, and the appropriate Chain of Custody certifications following full implementation of PCA business systems.

301-1 Materials Used by Weight or Volume

Sourcing Stream (UOM)	2018	2017	2016
First-use Fiber (Green Short Tons)	**14,576,805**	**14,307,419**	**14,225,062**
Total Certified	31%	32%	28%
PEFC Certified[1]	27%	27%	26%
FSC Certified[2]	4%	5%	2%
Recovered Fiber (Air Dried Short Tons)	**1,073,236**	**1,051,334**	**969,131**
Market Pulp (Air Dried Short Tons)[3]	**138**	**2,664**	**1,629**

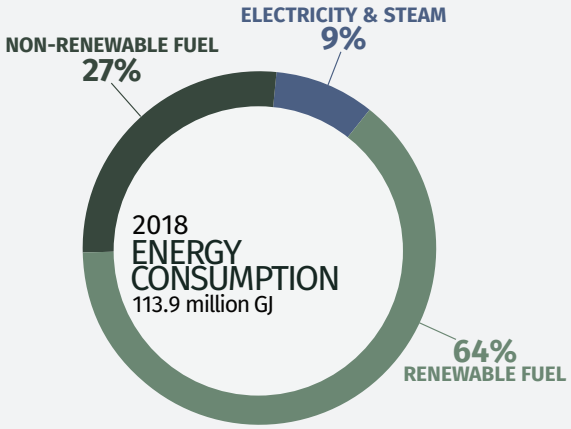
[1]Fiber inputs from timberland certified to ATFS and SFI standards, which are endorsed by PEFC.
[2]All FSC Certified Fiber is procured by our White Paper mills
[3]All Market Pulp is procured by our International Falls mill.

301-2 Recycled Content of Finished Paper Product

The recycled content of our finished products is calculated based on the proportion of recovered fiber to overall production after taking into account specific yields (conversion rates) for each stream. For the past three years the average recycled content of our containerboard has been 20-21%. Our white paper division sells products under two brand names that specify a minimum percentage of post-consumer recycled content: ASPEN® and FIREWORX®. This information is published in our Office Papers Product Guide and is publically available on the Boise Paper website.

GRI 302 Energy

The majority of our mills utilize combined heat and power processes wherein high-pressure steam is routed to steam turbines to generate electricity, subsequently exhaust steam from the turbines is utilized for both pulping and papermaking processes. Two of our mills, Tomahawk and International Falls, also self-produce and utilize hydroelectricity, which had not been previously reported. With the exception of Filer City, our mills self-generate process steam to serve our requirements from carbon-neutral biomass by-products. In addition, we purchase supplemental fuels, some of which are also carbon-neutral. Through significant strategic investments, our mills have improved their energy efficiency by replacing fixed speed with variable speed electrical drives. Over the past decade, several PCA mills have increased capacity for biogenic fuel types and created flexibility to replace coal with combustion of lower emitting fuels like natural gas.

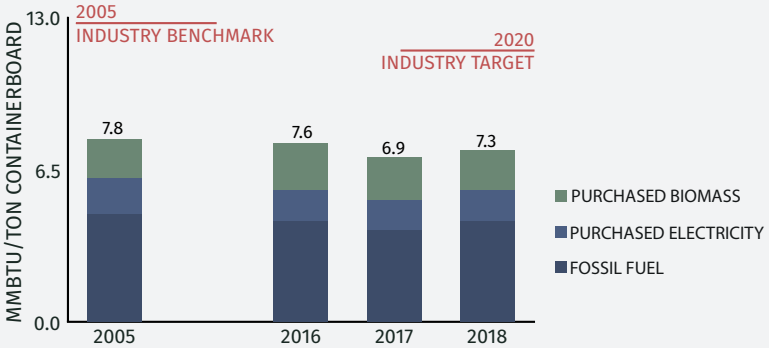


Hydroelectricity accounted for less than 0.5% of total energy consumption and is therefore not included in the chart above.

302-3 Energy Intensity

PROGRESS: AF&PA Better Practices, Better Planet
GOAL: 10% increase in purchased energy efficiency from 2005 to 2020

PCA PURCHASED ENERGY EFFICIENCY - CONTAINERBOARD



Our packaging plants predominantly utilize purchased electricity and natural gas. Our full-line plant boilers combust natural gas to produce and supply steam to corrugators as well as for building heat.

In 2018 we began tracking diesel consumption by our regional, in-house trucking fleet, as well as energy consumption at our corporate headquarters and technical center.

302-1, 2, Energy Consumption within and Outside of the Organization

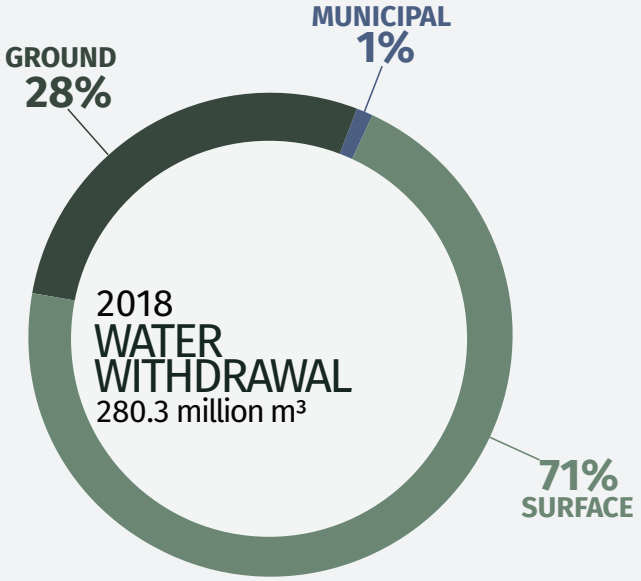
Energy Consumption (million GJ)	2018	2017	2016
Non-renewable fuel	**30.6**	**27.8**	**30.4**
Natural Gas	96.4%	95.3%	95.4%
Tire-Derived Fuel	1.4%	2.8%	2.5%
Diesel	1.4%	0.7%	0.7%
Propane	0.5%	0.4%	0.4%
Fuel Oil	0.3%	0.4%	0.4%
Coal	0.1%	0.3%	0.5%
Gasoline (Petrol)	0.1%	0.1%	0.1%
Renewable fuel	**73.3**	**72.9**	**73.1**
Black Liquor Solids	67.7%	67.5%	68.0%
Bark	29.0%	30.2%	29.8%
Railroad crossties	2.2%	1.4%	1.2%
Wastewater residuals	0.9%	0.8%*	0.8%
Biogas	0.2%	0.2%	0.2%
Electricity and steam	**9.7**	**9.0**	**9.4**
Electricity	97.2%	94.8%	94.9%
Steam (purchased)	2.8%	5.2%	5.1%
Hydroelectricity	**0.3**	**0.4**	**0.3**
TOTAL	**113.9**	**110.1**	**113.2**
Containerboard Mills	72%	63%	62%
White Paper Mills	24%	33%	34%
Packaging Plants and Other	4%	4%	4%

2018 data includes additional tracking as mentioned above, as well as at Kingsburg and McClellan, two large full-line plants, which were acquired in Q4, 2017. 2018 is also the first year our Wallula Mill's data is reported with Containerboard Mills.
*Energy from wastewater residuals at a single mill was inadvertently underreported in 2017 by 0.56 million GJ. This adjustment resulted in a 0.5% increase in overall energy consumption for 2017.

GRI 303 Water

Pulp and paper manufacturing is a water intensive process. Our mills intentionally recycle and reuse each gallon of water within the pulping and papermaking processes 4-5 times prior to wastewater treatment. We also use "non-contact" water to cool turbines and other manufacturing processes. Mills essentially "borrow" water resources for manufacturing – subsequently returning virtually all the water back to the environment. States issue permits for groundwater and surface water based on extraction volumes. We are required to measure the volume extracted with flow meters on site. We typically report to each state where we operate mills, at least once a year.

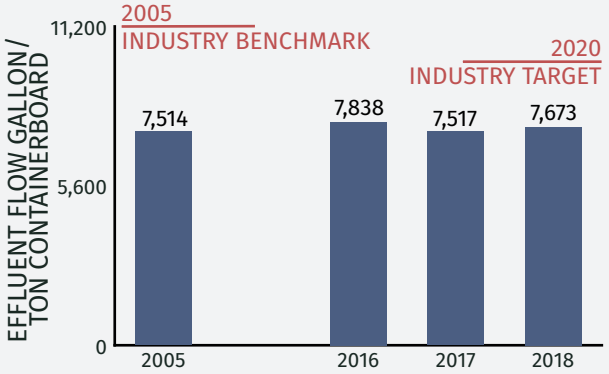
In 2018 we began tracking water consumption at our packaging plants, which unlike our mills are sourced primarily from municipalities. Water consumption is highest at our full-line plants where we have corrugators and water is used in-process. Packaging plants account for less than 1% of PCA's total water use.



PROGRESS: AF&PA Better Practices, Better Planet

GOAL: 12% reduction in pulp and paper mills water use from 2005 to 2020

PCA WATER USE - CONTAINERBOARD



303-1 Water Withdrawal by Source

Water withdrawal (million m³)	2018	2017	2016
Surface Water	**197.7**	**203.9**	**193.9**
Process	60.9%	59.8%	59.0%
Cooling	38.9%	40.0%	40.8%
Potable	0.2%	0.2%	0.2%
Ground Water	**79.3**	**83.8**	**87.9**
Process	85.5%	82.8%	84.7%
Cooling	14.3%	16.9%	15.1%
Potable	0.2%	0.3%	0.3%
Municipal Water (Mills)	**1.9**	**0.5**	**1.7**
Municipal Water (Packaging Plants)	**1.3**	**-**	**-**
TOTAL	**280.3**	**288.2**	**283.5**

GRI 304 Biodiversity

For decades, PCA has worked with family and small-scale landowners providing long-term sustainable forest management applications and education. Sustainably managing North American working-forests is essential to PCA's long-term success. We take this responsibility seriously and with commitment. Our responsibility is demonstrated by ensuring our fiber sourcing program and practices are evaluated to, and fully conform to rigorous forest, fiber and paper certification standards including: SFI, PEFC, and FSC, by respected, independent third-party auditors.

The US and Canada are not only home to many unique forest ecosystems and habitats, but also have a long history of developing and enforcing laws and regulations toward effective forest management. PCA acknowledges and follows all US and Canadian requirements to help maintain biodiversity in forest ecosystems managed for fiber procurement. The comprehensive nature of US and Canadian law is one of many benefits to PCA and our Customers in our procuring first-use fiber exclusively from North America. Annually, PCA's corporate forestry staff review the IUCN Red List and other reputable sources for unacceptable sources or locations of high conservation interest. In addition to the IUCN Red List, each US state has published separate Forest and Wildlife Action Plans referencing at a state level, by species or habitat areas that are or may be susceptible to becoming threatened or endangered. We then incorporate adjustments into staff training and fiber sourcing procedures.

PCA supports and promotes training programs for logging professionals to increase professionalism of sustainable forestry practices during harvest activity, as required by our sustainable forestry standards. We are dedicated to applying all mandatory and voluntary state Best Management Practices (BMPs) on our harvest activity to protect the site's biodiversity and conserve the quality of the soil and water in the landscape.

Since 2012, PCA performs annual internal audits of the manufacturing sites in accordance to the forest, fiber and packaging certification programs we adhere to. These audits include visiting harvest sites to check for BMP compliance and interview logging contractors and suppliers to ensure their training is up to date and they are knowledgeable on PCA fiber sourcing policies.

304-3 Habitats Protected or Restored

We believe that in order to stay current in practicing responsible fiber procurement, supporting research and partnering in conservation efforts is essential. We partner with Forest Resource Association, The Nature Conservancy and NCASI for accomplishing research and supporting conservation efforts. Annually, PCA reviews and trains staff on the latest research and conservation priorities to broaden the practice of sustainable forest management.

The forest certification programs we adhere to both require and help to support protection from biodiversity loss. As example, the SFI standard requires a trained Master Logger or Qualified Logging Professional (QLP) on site during harvest activities and remain up to date on continuing education requirements, including those around biodiversity protection.

304-4 Habitats in Areas Affected by Operations

Utilizing NatureServe and state Natural Heritage websites, we check for threatened or endangered species and ecosystem conservation priorities in combination with on the ground inspections (Environmental Impact Assessments) before harvest activity. This enables us to ensure biodiversity constraints are identified and have an effective plan of action in-place before, during and after management activity.

PCA fully complies with the US Lacey Act and is in full conformance with the European Timber Regulations.

GRI 305 Emissions

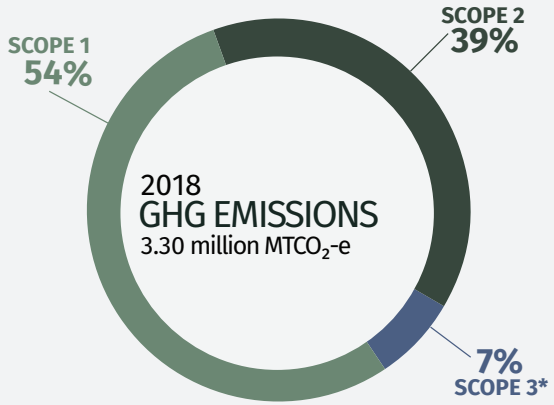
PCA is one of the larger producers of containerboard, corrugated packaging products, and business paper in the United States. The scale of our production requires significant amounts of energy and resources. Much of those energy requirements are at our pulping and papermaking operations. Those needs are met in large-part via electric and steam self-generation, and leveraging combustion of renewable, current-carbon, biogenic fuels. While doing so creates greenhouse gas emissions, the majority of which are reported as biogenic CO_2 production and accordingly do not contribute to PCA's carbon-footprint. Combustion of biomass, does however result in net additions of methane and nitrous oxide to the atmosphere. Emissions of these pollutants are included as part of our scope 1 emissions.

305-1, 2, 3, Direct, Energy Indirect, and Other Indirect GHG Emissions

GHG Emissions (million metric tons CO_2-e)	2018	2017	2016
Scope 1	**1.70**	**1.56**	**1.70**
Packaging Plants	10.5%	10.7%	10.0%
Containerboard Mills	60.7%	53.8%	52.7%
White Paper Mills	27.6%	35.5%	37.3%
Other	1.2%	-	-
Scope 1 (owned landfills)	**0.10**	**-**	**-**
Scope 2	**1.28**	**1.34**	**1.38**
Packaging Plants	13.7%	12.8%	12.1%
Containerboard Mills	66.0%	59.1%	56.0%
White Paper Mills	20.1%	28.0%	31.9%
Other	0.2%	-	-
Scope 3*	**0.22**	**-**	**-**
Packaging Plants	43.6%	-	-
Containerboard Mills	52.3%	-	-
White Paper Mills	4.1%	-	-
TOTAL	**3.30**	**2.90**	**3.09**
Biogenic CO_2	6.55	6.52[1]	6.54

2018 is the first year our Wallula Mill is grouped with Containerboard Mills.
"Other" includes our regional trucking fleet, corporate headquarters, and technical center.
[1]Our biogenic CO_2 emissions for 2017 were 0.9% higher than previously reported due to inadvertent underreporting of WWTP Residuals fuel consumption last year.
*Scope 3 emissions include two categories: Waste generated in operations, using an emission factor of 0.42 metric tons of CO_2/ton of waste sent to landfill, from US EPA Solid Waste Management and Greenhouse Gases. A Life-Cycle Assessment of Emissions and Sinks, 3rd Edition; and downstream transportation and distribution, which includes two types of transport. Truck, which we assume a fuel economy of 6 miles per gallon of diesel and use an emission factor of 1.703 kg of CO_2/mile; and Train, with an emission factor of 1.072 kg of CO_2/rail-mile as sourced from the EPA SmartWay: Shipper Partner Tool: Technical Documentation 2013.

Today we track substantially all direct (scope 1) and indirect (scope 2, location-based) emissions at our mills and packaging plants for which we have operational control and apply the most appropriate emission factors to each of the sources we track. Additionally, in 2018 we began tracking emissions for our regional, in-house trucking fleet, our corporate headquarters, and our technical center. In addition to broadening the facilities and operations we track, we also expanded the sources in our inventory. This year we added scope 1 emissions from landfills owned and operated by our mills as calculated by the EPA from data reported by PCA. The EPA's calculation of landfill emissions is far more involved than a simple emission factor - that would be totally appropriate for other sources. For example, we take into account the decay rate of waste from previous years, the make-up of the waste stream, capping of the landfill, and other factors. Although the calculation is robust, the availability of the data is not timely, and is therefore reported as a separate line item on a one-year lag (i.e. 2017 data reported for 2018).

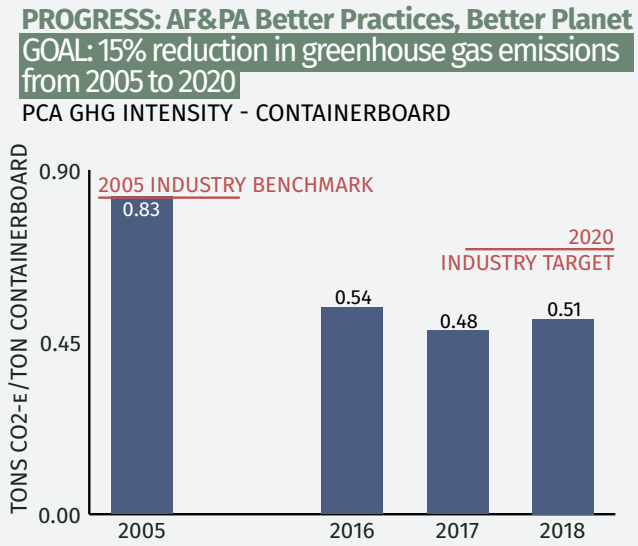


Emission Factors and Global Warming Potential (GWP)	
Scope 1	US EPA MRR: Final Rule (40 CFR 98) - Industrial Sector 2013
Scope 2 (2016, 2017)	US EPA eGRID: eGRID 2017 v2 (w/2014 Data)
Scope 2 (2018 only)	US EPA eGRID: eGRID 2018 (w/2016 Data)
CH_4 GWP	25
N_2O GWP	298

In addition to a new scope 1 emission source, in 2018 we also began tracking two scope 3 emission categories: waste generated in operations (our packaging plants and Filer City mill), and downstream transportation and distribution. This includes transportation of containerboard roll stock from our mills via truck and rail, as well as transportation of finished corrugated products via truck to our end customers. Unlike solid waste emissions previously described and falling into scope 1 – for our scope 3 quantification we are using an emission factor from US EPA Solid Waste Management and Greenhouse Gases report, due to the large volume of sites in this category. We will continue to explore the addition of other scope 3 categories for inclusion in subsequent year's inventory, as appropriate.

We compile our greenhouse gas inventory with the help of Schneider Electric's sustainability data management platform, Resource Advisor™, which we have utilized since 2013. In 2018 we moved to full implementation of invoice collection and data scraping across our packaging plants for electric power, natural gas, propane, and solid waste, among other minor sources contributing to our footprint, and had a 90% invoice participation rate overall. For data points where invoice data was not readily available, manually reported data was applied and estimations were made for the small percentage of remaining gaps based on consumption patterns within a plant, or of like plants.

305-4, 5, GHG Emissions Intensity and Reduction of GHG Emissions

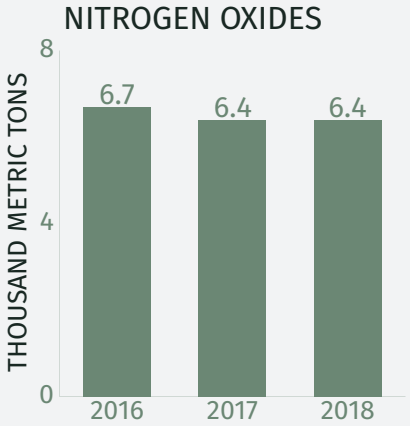


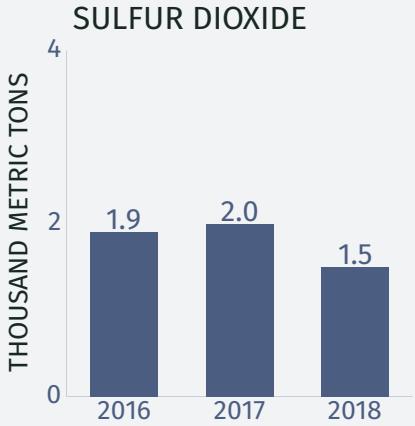
305-7 Nitrogen Oxides, Sulfur Oxides, and Other Significant Air Emissions

We calculated nitrogen oxides (NO_x) and sulfur dioxides (SO_2) based on emission factors derived from stack testing, and/or from our Continuous Emissions Monitoring Systems (CEMS). These factors are used to calculate our emissions based on the type and volume of fuel we combust.

Air Emissions (thousand metric tons)	2018	2017	2016
Nitrogen Oxides (NO_x)	**6.4**	**6.4**	**6.7**
Containerboard Mills	79.7%	70.3%	71.2%
White Paper Mills	20.3%	29.7%	28.8%
Sulfur Dioxide (SO_2)	**1.5**	**2.0**	**1.9**
Containerboard Mills	89.7%	52.0%	57.6%
White Paper Mills	10.3%	48.1%	42.4%

NOTE: The shift in the proportion of air emissions weighted more heavily toward our Containerboard Mills is due to the change in allocation for our Wallula Mill, which ceased white paper production Q2 2018.

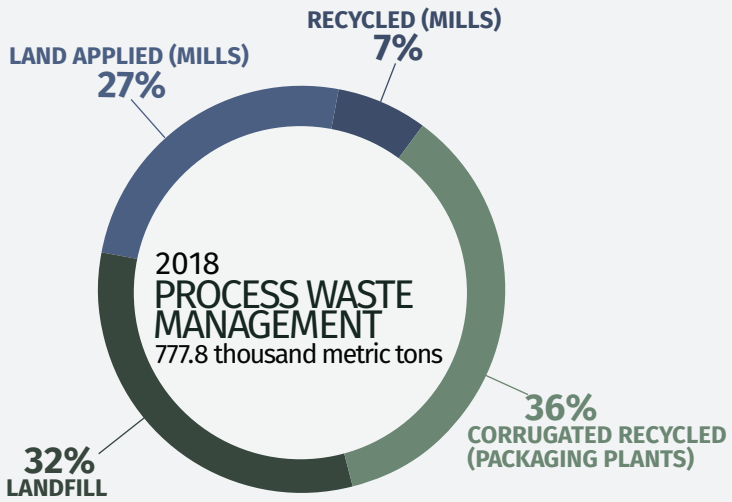




GRI 306 Effluents & Waste

Waste

PCA mills and converting operations avoid sending waste to landfills when possible. The majority of our mills own and operate private landfills (except Filer City, MI). These landfills are primarily used to dispose of two high volume waste byproducts: ash from burning woody biofuels (see energy) and residuals from our process waste-water treatment plants (WWTP). Portions of process residuals are also beneficially reused rather than landfilled.



At some of our mills, WWTP residuals and wood-fired boiler ash are beneficially used by local farmers as soil amendments or liming agents to achieve overall better moisture retention, increase the organic matter content of topsoil, and to elevate soil pH, which improves plant nutrient uptake. Additionally, combustion residuals are used on-site at the mills for roads, building banks for wastewater treatment ponds and at the landfill as cover material. In some instances, where permitted, we dispose of mill construction waste in these landfills.

In 2018 we began collecting invoices for solid waste sent to public landfills and scraped the data accordingly. Several of our suppliers do not report a unit of mass, therefore we applied the appropriate conversion factors based on the volume and type of container, as recommended in the EPA's "Volume-to-Weight Conversion Factors (April 2016)*".

Our packaging plants recover the vast majority of their corrugated scrap and sell it back to mills as double-lined kraft (DLK), which is considered pre-consumer recycled material.

306-2, Waste by Type and Disposal Method

Process Waste Management (thousand metric tons)	2018	2017	2016
Beneficially Reused or Recycled (Mills)	**243.5**	**249.8**	**244.1**
Land Applied	78.6%	78.4%	86.2%
Recycled	21.3%	21.6%	13.8%
Corrugated Scrap (DLK, Packaging Plants)	**282.3**	**255.3**	**244.6**
Landfill (Mills)	**237.4**	**201.5**	**172.3**
Landfill (Packaging Plants)	**14.6**	**-**	**-**
TOTAL	**777.8**	**706.6**	**661.0**

*Of our 94 converting facilities, we estimated solid waste to landfill for 11, based on like facilities, as a proportion of production output.

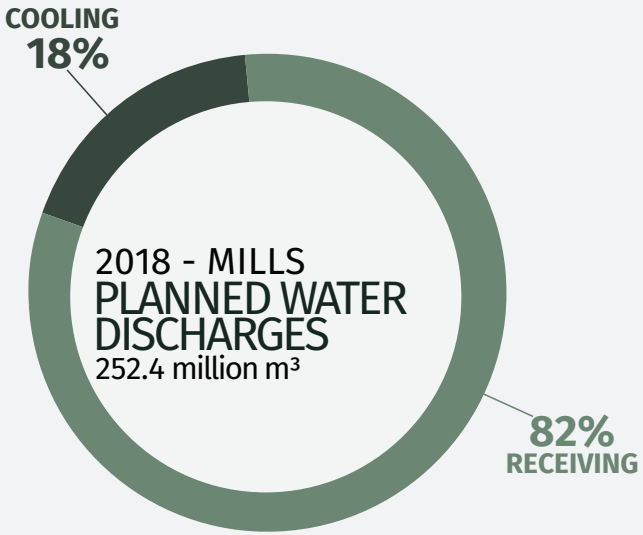
Effluents

As previously described, PCA withdraws considerable amounts of water at our mills and returns essentially all of it to the environment through evaporation or as wastewater. Wastewater is returned in two primary ways depending on its use at the mill**. Non-contact cooling water (NCCW) is used to cool energy turbines during warm months and is returned without treatment. Process wastewater is treated in an on-site wastewater treatment plant prior to being discharged to a river or lake. At all of our mills, treated wastewater is tested for Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) prior to discharge. In addition to BOD and TSS, other parameters are tested in accordance with state-specific requirements. Each month, results are reported to state governments to assure we operate within our permit limits.

**Due to geographic location, International Falls operates a fully enclosed, UNOX system, (an anaerobic re-activated sludge system) for wastewater treatment. WWTP residuals from this system are subsequently dried and combusted as a biofuel. A fraction of one percent of Valdosta's total wastewater is treated before on-site use for irrigation purposes. Valdosta and International Falls both draw municipal water (for sinks, bathrooms, etc.) which is treated by publicly owned treatment works (POTW).

306-1 Water Discharge by Quality and Destination

Water Discharge (million m^3), Mills	2018	2017	2016
Planned Water Discharges	**252.4**	**270**	**268.8**
Cooling	17.8%	27.4%	24.9%
Receiving	82.2%	72.6%	75.1%



Water Discharge Quality (lbs/ton of production)	2018	2017	2016
Biological Oxygen Demand (BOD)	**1.88**	**1.69**	**1.65**
Containerboard Mills	1.71	1.23	0.97
White Paper Mills	2.64	3.01	3.54
Total Suspended Solids (TSS)	**3.24**	**2.81**	**2.59**
Containerboard Mills	3.09	1.93	1.57
White Paper Mills	3.87	5.36	5.41

NOTE: Because this data is reported on an intensity basis, breakdowns by mill segment are not additive.

GRI 307 Environmental Compliance

PCA has long been, and continues to be, committed to environmental stewardship. Our environmental management system works to assure full compliance with national, state, and local law and all other applicable regulations. We employ a corporate environmental department within the umbrella of our Environmental, Health and Safety department and operational services structure and programs. These commitments and investments provide assurance of our responsible operation and compliance.

Every PCA packaging plant and mill has personnel responsible for environmental compliance. PCA's corporate environmental department provides resources for local personnel including best management practices on various subjects, including: storm water, spill response, hazardous waste, universal waste, and oil management. Also provided are inspection guidelines and PCA's published environmental policy regarding environmental stewardship.

To assure all operations adhere to applicable law and regulations, as well as assuring all permitting, testing and reporting is accomplished adequately and in a timely manner; corporate environmental personnel regularly interact with our facilities, including a robust internal audit program to which all facilities are audited on a continuous, ongoing cycle, once every 3-5 years based on the inherent risk of the operation. PCA uses Velocity EHS, a highly regarded EHS Management System to assure proper measurements required by any permits and/or agency are communicated in the timeframe allotted, and non-conformances identified in internal audits are resolved. If any of our sites receive a notice of violation, environmental release or permit exceedance it is promptly communicated to senior management through our incident reporting system, Origami. PCA's Board of Directors annually reviews the company's environmental performance.

307-1 Non-Compliance with Environmental Law and Regulations

PCA did not have any material violation of environmental laws in 2018, 2017, or 2016.

SOCIAL

401 *Employment*
402 *Labor & Management*
403 *Occupational Health & Safety*
404 *Training & Education*
405 *Diversity & Inclusion*
413 *Local Communities*
416 *Consumer Health & Safety*

GRI 401 Employment

PCA strives to be the employer-of-choice and attempts to treat all employees accordingly, in a Golden-Rule work environment.

PCA is proud to be an equal opportunity workplace and is an affirmative action employer. We are committed to equal employment opportunity regardless of race, color, gender, sexual orientation, gender identity or expression, national origin, religion, age, disability, marital status, veteran status, genetic information or any other status protected by law. Employment

Employment decisions including hiring, performance appraisals, promotions and discharge are based on an employee's qualifications, skills and performance without regard to race, color, age, national origin, ancestry, religion, religious creed, sex, sexual orientation, gender, gender identity, gender expression, physical or mental disability, medical condition, genetic information, marital or military status or other characteristics covered by Title VII of the Civil Rights Act of 1964 as amended and other applicable federal and state law. PCA will not tolerate discrimination of any employee on such basis. See our Statement of Business Principles for additional information.

People are centric to how PCA attracts our customers and their business. According, people are essential to our success. Attracting skilled and engaged employees to join our workforce is therefore a priority. Retaining those that we recruit and develop is paramount as we work toward achieving our objectives.

401-1 New Employee Hires and Employee Turnover

New Employee hires and employee turnover

New Hires	Total	Female	Male
Under 30 years old	1,060	199	861
30-50 years old	1,030	181	849
Over 50 years old	337	69	269
GRAND TOTAL	**2,427**	**449**	**1,978**

Terminations	Total	Female	Male
Under 30 years old	698	132	566
30-50 years old	861	139	722
Over 50 years old	718	126	592
GRAND TOTAL	**2,277**	**397**	**1,880**

401-2 Benefits Provided to Full-Time Employees

PCA provides comprehensive health and welfare benefits to its employees, including participation in medical, dental and vision coverage plans, health and flexible spending accounts, supplemental life insurance, disability coverage and paid vacation. PCA provides medical and parental leave in accordance with U.S. laws.

Examples:

Health Care: Medical plans that meet Affordable Care Act requirements are offered to both salaried and hourly employees. Prescription drug, vision and dental plans are also available to many employees.

Health Care and Flexible Spending Accounts: are available to many employees.

Disability Coverage: Long Term Disability (LTD): plan for salaried and hourly employees.

Parental Leave: Coverage allowed in accordance with the U.S. Family Medical Leave Act (FMLA).

Vacation Days and Holidays: Paid vacation and holidays are made available to all full-time employees

Retirement Provision: Both salaried and hourly employees covered by a defined contribution plan and/or defined benefit plan.

Life Insurance: Life Insurance at a value equivalent to 1.5 times the employee's annual salary. Business travel insurance is also available to many employees that travel on behalf of PCA.

Stock Ownership: Available as an option in several employee thrift plans, including PCA's primary defined contribution plans.

With Regard to the Employees of PCA's Direct Suppliers

PCA is firmly committed to the fair and equitable treatment of all its employees within a safe, healthy and harassment-free work environment. We also seek to assure similar ethical treatment of all who work for PCA's direct suppliers. PCA has publicly published our expectations, makes them available to all suppliers, and incorporates them into our purchasing terms.

A summary of PCA's expectations of our direct suppliers can be found in Section 204 of this report. For complete information on PCA's approach to further assuring a legal, sustainable and equitable supply-chain, please see our Expectations of PCA Suppliers.

GRI 402 Labor and Management Relations

Approximately two thirds of our hourly employees work pursuant to collective bargaining agreements. The majority of our unionized employees are represented by the United Steel Workers (USW), the International Brotherhood of Teamsters (IBT), the International Association of Machinists (IAM) and the Association of Western Pulp and Paper Workers (AWPPW).

In 2018, we experienced no work stoppages and we believe we have satisfactory labor relations with our employees. For more information, please refer to page 7 of 2018 Annual Report and 10K.

402-1 Minimum Notice periods regarding operational changes

Operational changes within PCA operations are addressed in accordance with any collective bargaining agreements in-place at that time/location. These include:

- Elimination of a shift or jobs: Bumping rights based on seniority and ability of affected employees may be allowed in union labor contracts.
- Weekend Overtime: Union labor contracts require an advance notice to employees scheduled.
- Shift Schedule Changes: Employees seeking to select or change their work shifts may be allowed based on collective bargaining agreements.
- Work Week and Work Start Times: Union labor contracts set the start of a work week and the normal work shift schedule.

PCA complies with US Law and under the WARN Act, a 60-day advance notice is provided of any plant closings that are intended to be permanent and involve 100 employees or more. We also provide similar notice timing to any plant closures not covered by the WARN Act.

GRI 403 Occupational Health and Safety

Employees

PCA is committed to providing and maintaining a safe and healthy work environment. We support this commitment and invest accordingly. We approach our occupational health and safety objectives in multiple ways to best assure success; through policy, training, supplying the most appropriate equipment/processes and direct employee engagement.

Employee health and safety is, quite simply, the top priority at PCA. As such, the company has established a "Corporate Safety Policy" which states our commitment to safety and outlines objectives to minimize hazards and risks in the workplace:

> PCA is committed to providing and maintaining a safe and healthy work environment. As a company, it is our philosophy that accidents are preventable and that an injury-free environment is achievable.
>
> Each manager is responsible for the development and implementation of an effective work system which will achieve an accident-free environment. The company will provide and maintain safe equipment, processes and procedures, and employees will be trained to work in a safe manner.
>
> All employees must be responsible for knowing and complying with safety policies, regulations and rules that apply to their job. Employees must know, understand and demand compliance with the safety laws and regulations that apply to their areas of responsibility. Following these requirements helps ensure not only safety of employees but also the safety of others.

Contractors

To accomplish a range of work and projects, PCA utilizes outside contractors. All contractors are required to perform all work safely and utilize appropriate safety procedures in performing their work, including compliance with applicable PCA safety requirements. All PCA agreements include provisions relating to the safe performance of work by contractors.

"...it is our philosophy that accidents are preventable and that an injury-free environment is achievable"

403-1 Workers representation in formal joint management – workers health and safety committees

Every PCA mill and plant maintains an active safety committee. The committee reports to the general or mill manager. The safety committee's key function is to create and maintain interest in health and safety with the objective of helping to reduce accidents and improve safety performance. The committee's charter is to monitor activities and promote safe work methods and habits and to assure safe work conditions. Committee members include hourly and supervisory employees with an objective of equal representation.

403-2 Types of injury and rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities.

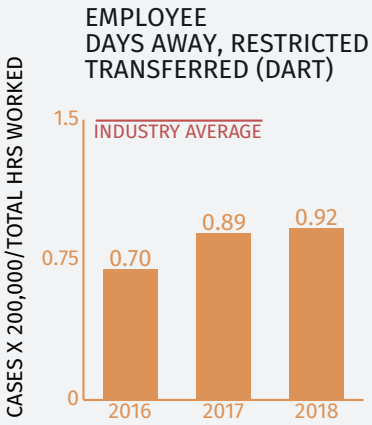
All PCA locations maintain accurate records of injuries and illnesses. These may be reviewed by compliance officers when visiting the establishment and for the purpose of posting the annual report of injury and illness experience in the workplace. All occupational injuries and illnesses must be reported to the senior management representative of the location prior to the end of the work shift or the end of the business day. It is the responsibility of the Mill Manager, General Manager or the highest management representative of the site to ensure all injuries and illnesses are recorded accurately. Monthly injury summary reports are created and distributed to key leaders within PCA.

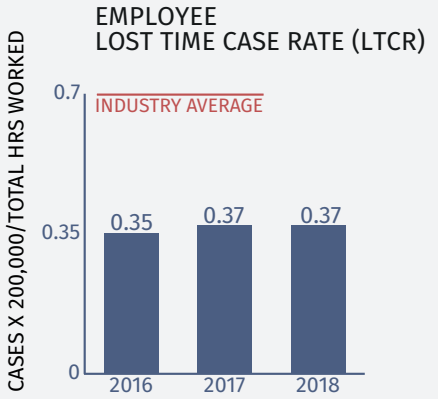
403-3 Workers with high incidence or high risk of diseases related to their occupation

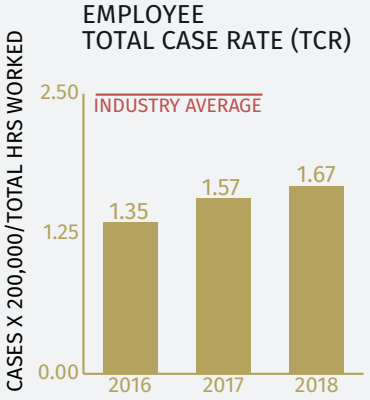
PCA is not aware of either high-incidence or high-risk of disease related to current work within our operations.

403-4 Health and safety topics covered in formal agreements with trade unions.

Collective bargaining agreements exist with trade unions on a local and national level. These agreements promote the acceptance of responsibility by both parties and the development of a positive health and safety culture.







GRI 404 Training and Education

The engagement of our workforce is one of PCA's greatest competitive advantages. That engagement, as well as the skills and knowledge of those on our team are key to PCA's ongoing success. Now, more than ever, continuous learning and development are essential. We strive to keep PCA and our employees at the leading edge.
Our premise is that investing in training and education will enhance personal growth while at the same time create value for the larger organization. In that investment, we offer and make available a range of resources to our entire hourly and salaried employee team. We also offer a number of job-specific programs designed to both keep employees current, as well as to enhance their continuing professional growth. In addition, PCA provides several educational programs and opportunities to those that have demonstrated both interest and ability to grow in management and leadership roles.

404-1, 404-2 Hours Of Training and Programs Provided

Learning online (eLearning) is a proven solution for enhancing the skills of our employees. Our employees are geographically distributed across the United States. Courseware is provided across the PCA network without requiring the time investment required by travel.

New This Year: Leadership Journey's and Safety Leadership Journeys.....

PCA's eLearning offerings are available to all employees. The majority of our online resources are available 24 hours, 7 days/week; this benefit is available at no cost to PCA learners. Examples include:

- Online Language Learning (Rosetta Stone)–Courseware for 38 languages is available
- Training & Development: A robust selection of courseware, executive summaries and videos on a range of skills and desktop applications.
- Thousands of assets are available to all PCA employees.
- PCA Learning Library – Custom content developed by PCA Subject Matter Experts on a variety of topics

PCA eLearning 2018

Resources			**Total**
Books Available			18,522
Skillsoft Courses Available			1,984
Custom Courses Available			427
Other Resources Available			2,131
Videos Available			8,467
Activity and Results	**Female**	**Male**	**Total**
Participating Users	1,542	3,277	4,819
Training Time (hours)			11,487
Course Completions	2,556	5,431	7,987

Career Currency and Development

- Online Maintenance Training (TPC) – Available for maintenance teams to enhance and develop their skills.
- Dimensions of Professional Selling (DPS) - A four-day course held in two sessions two to three months apart. In 2018 23 females and 59 males participated, for a total of 82.

Leadership Development

Several initiatives and programs have been developed internally to grow the leaders of tomorrow and improve the strengths of our current front-line, functional and general management leaders. Examples include:

- Leadership Excellence and Professionalism (LEaP): In 2018, offered to all managers, and utilized in all Operations.
- Leadership Development Program (LDT): Intended for those currently demonstrating deep engagement, initiative and promise. An 11 week program, spread over six to nine months. Positioned to support the growth of current employees that have potential to report to General Manager level within 2-5 years. In 2018 we had a class of 11. Three females and eight males participated.
- Generational Investment for Tomorrow Program (GIFT): College recruits or others deeply engaged and demonstrating leadership potential. Participants rotate among, and learn-across, operational roles with an intent of furthering PCA's bench-strength.

Educational Assistance
PCA has established the Educational Assistance Program to support salaried employees develop their capabilities through reimbursement of costs incurred in degree-pursuit programs.

PCA Educational Assistance 2018			
Degree Pursuit	**Female**	**Male**	**Total**
Participation	45	37	82
Contribution			$ 396,500

404-3 Percentage of Employees Receiving Regular Performance and Career Development Reviews
PCA utilizes various formal and informal performance management processes, trainings and development programs to build competence among employees. Employees are evaluated on job performance, including performance against the expected standards of conduct.

We strive to keep PCA and our employees at the leading edge.

GRI 405 Diversity and Equal Opportunity

Our objective is to succeed through our people. Doing so requires an engaged, collaborative and productive workforce. Individual as well as collaborative work and contributions are essential. We achieve these objectives by developing, promoting and maintaining a culture and an environment of respect and inclusion. These principles, as well as our environment, are designed to develop and promote strong and increasing engagement of all PCA employees.

PCA is committed to equal employment opportunity regardless of race, color, gender, sexual orientation, gender identity or expression, national origin, religion, age, disability, marital status, veteran status, genetic information or any other status protected by law. PCA is an equal opportunity workplace and is an affirmative action employer. [Equal Opportunity at PCA]

405-1 Diversity of Governance Bodies and Employees
PCA's board of directors has adopted a policy under which it will actively seek out qualified diverse candidates for consideration when seeking new directors.

Board
PCA's Board Members in 2018 include:

Board of Directors	Total	Female	Male
30-50 years old	1	0	1
Over 50 years old	10	1	9
TOTAL	**11**	**1**	**10**

Officers
PCA's Officers in 2018 include:

Officers	Total	Female	Male
	29	**4**	**25**

405-1 Diversity of Governance Bodies and Employees (cont.)

Employees

Age	Total	% of Total	Female	Male
Under 30 years old	2,392	16%	347	2,045
30-50 years old	6,429	43%	1,097	5,331
Over 50 years old	6,130	41%	1,078	5,052
Total	**14,950**		**2,522**	**12,428**

PKG Employee Population As of 12/31/2018

PCA maintains policies prohibiting discrimination or harassment on the basis of race, color, age, national origin, ancestry, religion, religious creed, sex, sexual orientation, gender, gender identity, gender expression, physical or mental disability, medical condition, genetic information, marital or military status or other characteristics covered by applicable law. PCA policy also prohibits retaliation against any individual who has complained of harassment or discrimination or who has cooperated with an investigation of any such complaint.

Please refer to page 4 of our Statement of Business Principles and our annual Equal Opportunity statement.

We achieve our objectives by developing, promoting and maintaining a culture and environment of respect and inclusion.

GRI 413 Local Communities

We seek to be a good neighbor in the more than 90 communities that we operate in, as well as the larger, global community. We see this objective as the right-thing-to-do and it fits with our business philosophy of fostering a "Golden-Rule work environment" within all PCA operations. Working collaboratively and driving shared value benefits all.

PCA is the leading employer, tax payer and customer of local businesses in many of the communities where our plants and mills are located. As one example of our community involvement - we recruit from and contribute back to a range of colleges and universities. PCA engages with and actively recruits from more than 40 degree-granting institutions including:

University Recruiting 2018

AL Auburn University, University of Alabama, University of South Alabama
CA California Polytechnic State University
FL Florida State University, University of Florida
GA University of Georgia Extension, Georgia Institute of Technology University of Georgia
ID University of Idaho
IL College of Lake County, Columbia College Chicago, DePaul University, Loyola University, Northern Illinois University, University of Illinois - Chicago, University of IL - Urbana-Champaign
IN Indiana State University, Purdue University
LA Louisiana State University, Louisiana Tech University, McNeese State University, University of Louisiana - Lafayette
ME University of Maine
MI Michigan State University, Michigan Technological University
MN Minnesota State - Iron Range Eng., University of Minnesota - Duluth
MS Mississippi State University, University of Mississippi
NC North Carolina State University
ND University of North Dakota
NY Rochester Institute of Technology
OH Miami University
TN Tennessee Technological University, University of Tennessee - Knoxville
TX Lamar University, Southern Methodist University, Stephen F. Austin State University, Texas A&M University, University of Texas - Tyler
WA Central Washington University, Eastern Washington University, University of Washington, Walla Walla University, Washington State University, Washington State University - Tri-Cities
WI University of Wisconsin - Platteville, University of Wisconsin - Stevens Point, University of Wisconsin - Stout

PCA contributed $2,100,000 to Colleges and Universities in 2018

413-1 Operations with local community engagement, impact assessments and development programs

The people of PCA continue to demonstrate their commitment to give-back to the communities they, our organization call home. Beyond our impact on employment and support of local commerce, PCA also supports a charitable contributions program, as authorized by our chairman and CEO. We contribute to a wide variety of organizations and initiatives including in the areas of education and research, civic and social, health and hospital as well as art and culture.

While PCA is honored to support our communities in a financial sense – we are most proud of the initiative and voluntary efforts of the people on our team. Team members at a significant number of locations PCA operates in have taken it upon themselves to initiate or support charitable activities in their local communities. While it's not possible to list all, what follows is a sampling of where and how our people have made a difference:

Supporting Youth Education

Newark, OH Plant participates in The Works volunteering at events to excite children about STEM.

Filer City, MI Mill employees volunteer to assist the Kennedy Elementary School robotics team.

Filer City, MI Mill provides trailers to local schools for recycling, schools earned $65,966 from this.

Reading, PA Plant educates local students about manufacturing as a career.

I-Falls, MN Mill employees volunteer with the Falls High School Robotics Team.

DeRidder, LA Mill goes to Carver Elementary School to demonstrate the papermaking process.

Sports/Recreation

Boise Paper employees volunteered for Project Up renewing Keyes Park in Columbia Hts, MN.

Tomahawk, WI Mill employees volunteered to maintain the Tomahawk High School sports fields.

Atlanta, GA Plant sponsored a girl's soccer team in a local league.

Harrisonburg, VA Plant donated equipment and time to the Rotary Club Soap-Box Derby.

DeRidder, LA Mill employees participated in the bench-a-thon raising money for the DeRidder High School athletic program.

DeRidder, LA Mill donated bike lights and tools to attach lights to bicycles of local children to improve safety.

Under-Resourced

Boise Paper participates in Box Tops for Education resulting in $264,511 to public schools.

Tomahawk, WI Mill volunteer mentoring youth at Kinship of Tomahawk.

Phoenix, AZ, Harrisonburg, VA and Salem, OR Plants bought toys and holiday gifts for local underpriveleged children.

Columbus, OH Plant participated in the Clif Bar Charity Event benefitting Inner-city Youth of Oakland, CA.

Marshalltown, IA Plant employees volunteered at a fund raiser for Green Mountain Garwin High School.

Opelika, AL Plant sponsored six players in the Jason Dufner Foundation's Celebrity Golf Classic, to raise money for End Childhood Hunger in Alabama.

Salisbury, NC Plant sponsored the Mother's Day Ball fundraiser for advancement of underprivileged youth.

Nampa, ID Plant holds food and clothing drives for donation to under-resourced students.

Special Needs

Valdosta, GA Mill works with the Special Needs Project.

Career

Marshalltown, IA Plant provides tours and education about manufacturing jobs to students, teachers and local community leaders.

Higher Education

Conrad, IA Plant donated the use of their offices for a scholarship telethon fundraiser.

Disaster Relief

Boise Paper employees volunteered at Project Up, an Arbor Day Foundation event to replant at Buffalo Bayou as part of recovery from hurricane Harvey.

Hanover, PA Plant held a clothing drive for American Red Cross to provide to victims of disaster.

Charitable Organizations

PCA donated $2,545,229 to charitable and educational organizations.

Huntsville, AL, Harrisonburg, PA, Nampa, ID and Trexlertown Plants and Wallula, WA Mill hold blood drives for local blood banks.

Hanover, PA Plant participates in fund raising events for AMES Charitable Foundation and Cancer Society.

Arlington, TX Plant participated in a fund raising event for Cystic Fibrosis of Texas.

Minneapolis, MN Plant and Lake Forest, IL Headquarters packed food for third world countries with Feed My Starving Children.

Tomahawk, WI Mill participates in multiple fund raising events for Lincoln County Humane Society.

Reading, PA Plant participated in a fund raising event for March of Dimes.

Minneapolis, MN Plant sponsored an employee in the Bike MS150 Ride for MS Society.

Minneapolis, MN Plant sponsored participants in the MS Walk for AMPI for MS Society.
Huntsville, AL Plant employees participated in an all-day fundraiser walk benefitting Relay for Life.
Huntsville, AL Plant employees participated in a bowl-a-thon benefitting Relay for Life.
Minneapolis, MN and Nampa, ID Plants employees volunteered at events benefitting Ronald McDonald House.
Marshalltown, IA Plant held a food drive for the Salvation Army.
New Oxford, PA Plant collected pet food for donation to local shelters supported by SPCA.
Reading, PA, Chicago, IL, Trexlertown, PA, Hanover, PA, Lancaster, PA, Minneapolis, MN, Golden Valley, MN, Marshalltown, IA, Conrad, IA, Omaha, NE and Roanoke, VA Plants held toy drives for donation to Toys for Tots.
Ashland, OH, Morganton, NC, Northampton, MA Plants and I-Falls, MN Mill employees raised $85,371 for United Way in their areas.
DeRidder, LA Mill donated tables and chairs to upgrade United Way classrooms.
DeRidder, LA Mill donated 200lbs of meat to United Way to provide meals for the elderly.
Columbus, OH Plant participated in the Firestone United Way Gold Classic to raise funds.
Trexlertown, PA Plant employees participated in the Walk for Diabetes.

Communities (General)

Filer City, MI Mill participated in Manistee County Big Day cleaning up parks and making improvements to the local elementary school
Filer City, MI Mill had three employees participate in the Manistee County Chamber of Commerce Leadership Program.
Burlington, WI Plant sponsored Chocolatefest which raise money for community projects.
Chicago, IL Plant held a health fair with free annual health screening and flu shots for employees and their families.
Tomahawk, WI Mill has a charity club which raised $4,000 for local charities.
Tomahawk, WI Mill holds an annual employee and first responder appreciation day.
Salt Lake City, UT, Seattle, WA, Atlanta, GA, Huntsville, AL, New Oxford, PA, Harrisonburg, VA, Roanoke, VA and Salem, OR Plants collected food for local food banks and homeless shelters.
Newark, OH Plant donated meat to a local food bank.
Newark, OH Plant collected metal to sell for recycling with proceeds going to a local charity.
Huntsville, AL Plant employees volunteered at a local food kitchen, preparing and serving a meal.
Salem, OR and Roanoke, VA Plants collected winter coats for homeless shelters and people in need.
Trexlertown, PA Plant sponsored eight employees in the Queen Bee Project golf outing.
Trexlertown, PA Plant employees volunteered at a fundraiser for Off the Streets.
DeRidder, LA Mill employees volunteered at the Great Adventure Camping Trip which provides training and support for single parents.
DeRidder, LA Mill employees attended the Great Gatsby Event raising funds for the Beauregard Chamber of Commerce.
DeRidder, LA Mill employees volunteered at Military Appreciation Day sponsored by the Beauregard Chamber of Commerce.
Columbus, OH Plant volunteered for Shop with a Cop, buying holiday gifts for families in need.
Marshalltown, IA, Nampa, ID, Morganton, NC, New Oxford, PA and Arlington, TX Plants donated boxes for various local charities, town events and disaster relief projects.

PCA donated $466,000 to local charitable organizations in 2018. Many of the direct contributions mentioned in this section are included within this total.

413-2 Operations with significant actual or potential negative impacts on local communities

PCA is not aware of any current operations that pose actual or potential, material negative impact on the communities in which we operate in.

GRI 416 Consumer Health and Safety

PCA believes that serving our customers and the consumers who purchase from them comes with significant responsibility. First and foremost, that we do everything we reasonably can to support the health and safety of the ultimate consumer of the food, beverage, pharmaceutical and personal care products carried in PCA packaging.

The Global Food Safety Initiative (GFSI) provides the platform to build food-safety management systems that will not only be effective, but as well externally assured, credible and universally accepted. PCA has developed, implemented and audited our food safety management systems to the FSSC 22000 standard (one of the leading GFSI-benchmarked standards). FSSC 22000 combines a comprehensive set of Good Manufacturing Practices, with the internationally accepted ISO 22000 Management System/Product-Safety Standard. PCA led the corrugated industry in committing to GFSI accomplishment, well prior to standards being finalized for packaging (2011). Our Colby, Wisconsin location was the first North American Corrugating Plant to attain GFSI certification (2012). Notably, PCA was the first large corrugated provider to achieve GFSI conformance nationwide, across our entire system of full-line packaging operations (2016). To this day, we remain the only large, vertically-integrated provider with that level of commitment and achievement. As the PCA system continues to grow organically and by acquisition, all full-line plants accomplish conformance to a GFSI benchmarked standard.

416-1 Assessment of the health and safety impacts of product and service categories

We view our role in supporting the health and safety of the consumer purchasing the products we package to be of the upmost importance. This begins with assuring that the containerboard we produce and incorporate into our packaging is compliant with statutory and regulatory law and is fit for intended use. PCA invests in a robust product stewardship function to accomplish these objectives. This ensures the cleanliness, health and safety of the materials we combine and convert into packaging.

Food Safety Management Systems

A crucial component of our strategy is our food safety management systems, which are established and maintained at each full-line packaging operation. The foundation of these systems is based on hazard analysis and critical control points (HACCP) and drive us to accomplish an in-depth review of every process we employ that may influence the safety of our products. End-to-end, all-encompassing and exhaustive efforts go into identifying any potential hazards and subsequently into quantifying any risks present in our processes. The ultimate objective being to prevent and to effectively manage-away risk to consumer health and wellbeing. The end result is assurance that we have built health and safety expectations into our products. By doing so, both our customers and the consumer know that every effort has been made to support food safety. The food-safety management systems at our full-line plants conform to the FSSC 22000 standard and are annually audited by NSF (an internationally known, and respected certifying Body), for purpose of external assurance.

416-2 Incidents of non-compliance concerning the health and safety impacts of products and services

PCA did not have any incidents of non-compliance with product safety regulations or material instances non-compliant with voluntary product safety codes in 2018.

GFSI Vision
Safe food for consumers, everywhere.

GFSI Mission
Provide continuous improvement in food safety management systems to ensure confidence in the delivery of safe food to consumers worldwide.

GFSI Objectives
Reduce food safety risks by delivering equivalence and convergence between effective food safety management systems

Manage cost in the global food system by eliminating redundancy and improving operational efficiency

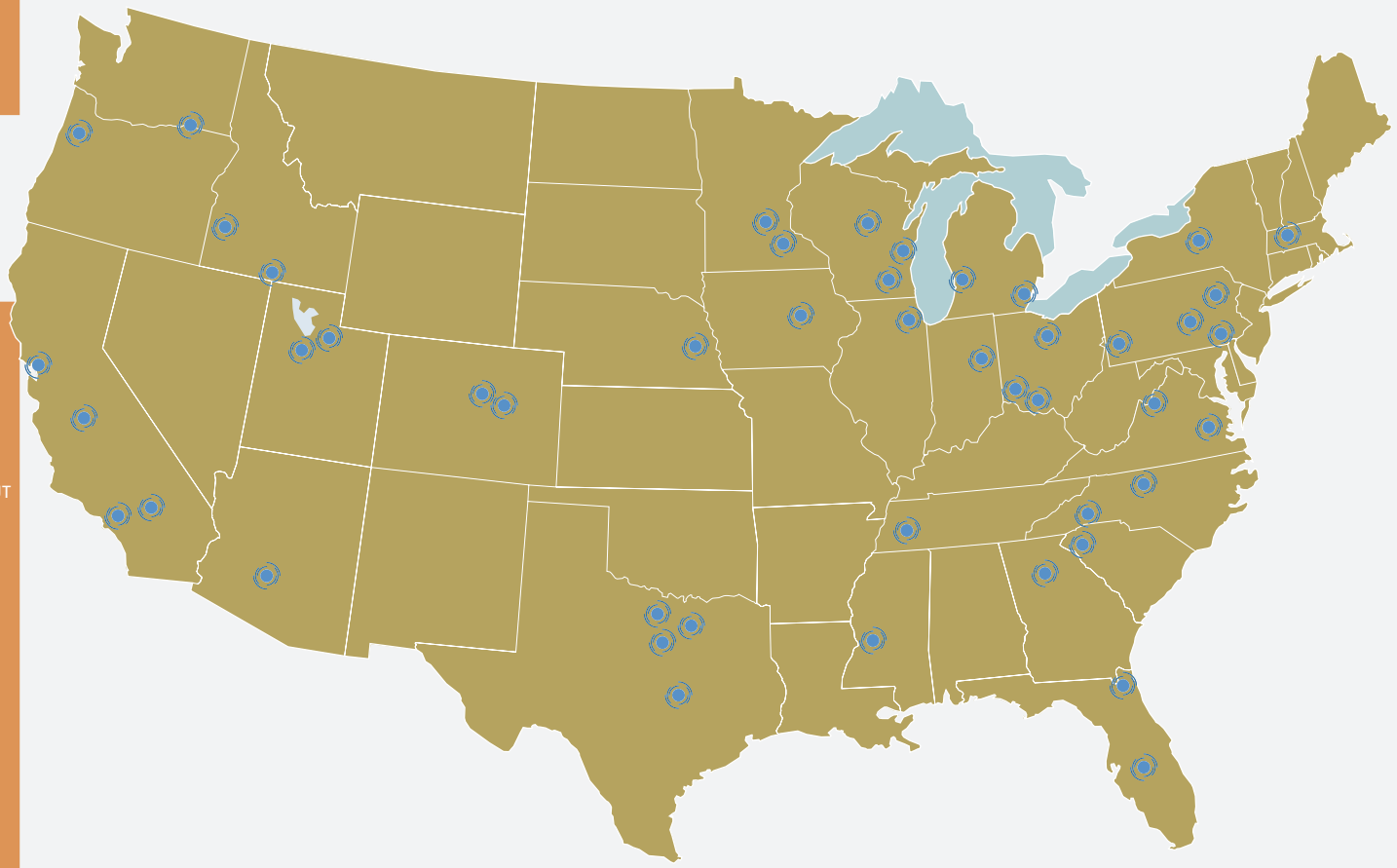
Develop competencies and capacity building in food safety to create consistent and effective global food systems
Provide a unique international stakeholder platform for collaboration, knowledge exchange and networking

PCA Supports the Global Food Safety Initiative

The Consumer Goods FORUM

GFSI Global Food Safety Initiative

Colby, WI - SQF	Trexlertown, PA
Golden Valley, MN	Milwaukee, WI
Morganton, NC	Plymouth, MI
Richmond, VA	Wallula, WA
Grandville, MI	Burlington, WI
Denver, CO	Salt Lake City Container, UT
Chicago Container, IL	Waco/Lux, TX
Syracuse, NY	Salt Lake City North, UT
Newberry, SC	Pearl, MS
Honea Path, SC	Arlington, TX
Omaha, NE	Harrisonburg, VA
Atlanta, GA	Vincennes, IN
Vernon, CA	Jacksonville, FL
Salem, OR	Minneapolis, MN
Marshalltown, IA	Winter Haven, FL
Phoenix, AZ	Gas City, IN
Salisbury, NC	Denver East, CO
Reading, PA	Newark, OH
Lancaster, PA	Atlanta Specialty, GA
Nampa, ID	Ashland, OH
Jackson, TN	Algona, WA
Northampton, MA	New Oxford P.O.P., PA
Garland, TX	Cheswick, PA
Middletown, OH	Fairfield, OH
Plano, TX	High Point, NC
Burley Container, ID	Kingsburg, CA
San Lorenzo, CA	San Bernardino,CA



FSSC 22000

ECONOMIC

201 ***Economic Performance***

204 ***Procurement Practices***

GRI 201: Economic Performance

PCA has a history of strong financial performance and encourages all stakeholders of PCA to read our annual reports which are available at PCA Annual Reports. PCA strives to generate industry-leading returns and maintain a balanced and disciplined capital allocation strategy for the benefit of its shareholders. We believe that strong financial controls policy and execution are essential and have included key policies following:

Financial Controls and Records Policy

PCA's principal executive officer and principal financial officer must certify quarterly in PCA's periodic financial reports as to PCA's financial statements, internal controls and disclosure controls and procedures, including as to the fair presentation of the financial information included in those reports. PCA maintains a system of internal controls over financial reporting that 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 its assets; (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 are being made only with proper authorizations; 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. PCA's internal policies are also designed to ensure the timely reporting of material information.

Executive officers of PCA and the primary individuals at PCA directly responsible for financial reporting, must comply with the Code of Ethics for Executive Officers and Principal Accounting Personnel, and annually certify compliance. Our Code of Ethics can be accessed at Executive Ethics.

201-1 Direct Economic Value generated and distributed (dollars in millions)

Item	2018	2017	2016
Direct Economic Value Generated			
Net Sales	7,014.6	6,444.9	5,779.0
Economic Value Distributed			
Cost of Sales, including Wages[3]	(5,369.3)	(4,974.1)	(4,502.9)
Selling, Administrative and Other Expenses[3]	(577.6)	(538.3)	(492.8)
Payments to Providers of Capital-Interest[3]	(97.2)	(103.9)	(94.8)
Payments to Providers of Capital–Dividends[1]	(268.1)	(237.6)	(216.1)
Payments to Governments - Taxes[2]	**(140.8)**	**(298.7)**	**(222.1)**
Economic Value Retained	**561.6**	**292.3**	**250.3**

[1] Reflects actual dividends paid during the year
[2] Reported on a cash basis to exclude the effect of deferred taxes
[3] Prior period amounts were adjusted due to the adoption of a new accounting standard in 2018 related to the treatment of pension expense.

201-2 Financial Implications, risks and opportunities due to climate change

We recognize and appreciate our stakeholders' concerns regarding climate change and risks that companies may face. A preliminary investigation and analysis on the subject leads us to believe that any risks to PCA in the short and intermediate term are not material. Despite our not having identified material risk, PCA has made significant investments in use of renewable feedstocks and manufacturing with renewable energy. Detail on the investments and the advances that have come from them are detailed in the Emissions section.

While legislation regarding the regulation of greenhouse gas emissions has been proposed at the federal level, it is uncertain whether such legislation will be passed and, if so, what the breadth and scope of it will be. The result of the regulation of greenhouse gas emissions could be an increase in our future environmental compliance costs, through caps, taxes or additional capital expenditures to modify facilities, which may be material. However, climate change legislation and the resulting future energy policy could also provide us with opportunities if the use of renewable energy is encouraged. We currently self-generate a significant portion of our power requirements at our mills using bark, black liquor and biomass as fuel - which are biogenic, regarded as carbon-neutral and derived from renewable resources. While we believe we are well-positioned to take advantage of any renewable energy incentives, it is uncertain what the ultimate costs and opportunities of any climate change legislation will be and how our business and industry will be affected.

201-3 Defined Benefit Plan obligations and other retirement plans
PCA operates several retirement plans for the benefit of its salaried and hourly employees. They include defined benefit plans and defined contribution plans.

Defined Benefit Plans:
PCA has defined pension benefit plans for both salaried and hourly employees. The plans covering salaried employees are closed to new entrants with only certain current active grandfathered participants still accruing benefits. The plans covering certain hourly employees are closed to new participants.

Obligations and Funded Status of Defined Benefit Pension and Other Postretirement Benefits Plans:
The funded status of PCA's plans change from year to year based on the plan asset investment return, contributions, benefit payments, the discount rate used to measure the liability and expected participant longevity. For additional information regarding the obligations and funded status of our plans, please see the Employee Benefit Plans and Other Postretirement Benefits footnote included in our annual report's Benefit Plans and Postretirement Benefits.

Defined Contribution Plans:
Some of our employees participate in contributory defined contribution savings plans; available to most of our salaried and hourly employees. The defined contribution plans permit participants to make contributions by salary reduction pursuant to Section 401(k) of the Code. PCA makes employer matching contributions and additional contributions to the plans of employees who are not eligible to participate in the defined benefit plans. PCA made contributions of $70.1 million, $65.2 million, and $55.3 million 2018, 2017, and 2016, respectively. For additional information regarding our defined contribution plans, please see the Employee Benefit Plans and Other Postretirement Benefits footnote included in our annual report's Benefit Plans and Postretirement Benefits and our SEC Form 11-K's [PCA Form 11-K].

201-4 Financial Assistance from government
The Company did not receive financial assistance from government in 2018, 2017, or 2016.

GRI 204: Procurement Practices

PCA seeks relationships with suppliers based on high and dependable performance, mutual benefit and a joint commitment to continuous improvement. PCA will ensure that all purchased goods and services meet our business requirements. We expect ourselves and our suppliers to operate ethically and to comply with all applicable laws and regulations.

To best enable PCA to provide the products and value our customers seek and appreciate, PCA looks to purchase on value. We recognize the value of long-term sound business relationships with our vendors. To establish such a relationship, vendors are expected and required to provide quality goods and services which meet PCA's business requirements at a fair and competitive price.

In carrying out their duties and responsibilities, PCA employees are expected to promote fair dealing by PCA and its employees and agents with customers, suppliers, competitors and employees. No employee is allowed to take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair practice. For more detail, see page 8 of our Statement of Business Principles. All PCA employees (not just those in the procurement function) involved in the purchasing decision must maintain professional integrity in their dealings with qualified PCA vendors. See page 12 of our Statement of Business Principles.

PCA recognizes that the California Transparency in Supply Chains Act of 2010 requires manufacturers and certain others that do business in California to publicly disclose their efforts to eradicate slavery and human trafficking from their supply chains. Most of our raw materials are sourced in the United States of America and almost all of our manufacturing activities are conducted in the U.S.A. After thorough review, we believe the risk of slavery or human trafficking in our supply chain is low. We have taken various steps to reduce risks in our supply chain including: risk assessment, further risk monitoring (ongoing) and additional efforts. Transparency in Supply Chains Act

204-1 Proportion of spending on local suppliers

PCA provides containerboard and paper and packaging solutions throughout the country. We operate a vertically-integrated nationwide network of mills, converting facilities and related sales and support functions. PCA defines all mills and all domestic plants to be significant locations of operation. Given PCA's business scope and geographic reach, we consider the contiguous 48 states to be "local" for purposes of the activities of our "significant locations of operation."

We estimate PCA's spend with suppliers that are domestic and therefore local to our significant locations of operation to be in excess of 90% for 2018.

PCA's Expectations of our Direct Suppliers

We expect ethical treatment of all who work for PCA's direct suppliers – in alignment with our firm commitment to the fair and equitable treatment of all of our employees within a safe, healthy and harassment-free work environment. PCA has published these expectations, makes them available to all suppliers and incorporates them into our purchasing terms. See our Supplier Expectations. Key themes and elements follow:

Once we determine a good fit with a supplier or business partner, we execute an agreement that not only provides the key commercial requirements but also specifically incorporates our social responsibility and sustainability expectations. For example, we include provisions on child labor and worker safety. We will work toward having these responsibility and sustainability expectations present in all agreements with suppliers and business partners. By inclusion in our agreements, we may also conduct compliance audits. We will apply a risk-based approach to determine which (if any, and when) suppliers are subject to audit by our internal procurement or other audit resources.

Social Responsibility and Sustainability Expectations (Supply Agreement Provisions):

In addition to complying with all laws and regulations, suppliers must comply with our requirements on the following key areas in connection with the goods and services provided to PCA. For more information please read the following document for complete requirements and expectations. Expectations of Direct Suppliers

Forced Labor	Harassment and Abuse	Disciplinary Procedures
Child Labor	Third-Party Representation	Business Integrity
Discrimination	Working Hours & Compensation	Environment & Sustainability
Safety & Health	Sustainable Fiber Sourcing	

APPENDIX

GRI Index

Master Data Table

Glossary

Citations

GRI Index

General Disclosures

Disclosure	Description	Page
Organizational Profile		
102-1	Name of the Organization	8
102-2	Activities, Brands, Products, and Services	8
102-3	Location of Headquarters	8
102-4	Location of Operations	8
102-5	Ownership and Legal Form	8
102-6	Markets Served	8
102-7	Scale	9-10
102-8	Employees and Other Workers	10-11
102-9	Supply Chain	11
102-10	Significant Changes	11
102-11	Precautionary Approach or Principle	11
102-12	External Initiatives	12
102-13	Membership of Associations	12
Strategy		
102-14	Statement from Senior Decision-maker	5
102-15	Description of Key Impacts, Risks and Opportunities	12-13
Ethics and Integrity		
102-16	Values, Principles, Standards, and Norms of Behavior	13
102-17	Mechanisms for Advice and Concerns About Ethics	14
Governance		
102-18	Governance Structure and Committees Responsible	14
Stakeholder Engagement		
102-40	List of Stakeholder Groups	14
102-41	Collective Bargaining Agreements	14
102-42	Identifying and Selecting Stakeholders	15
102-43	Approach to Stakeholder Engagement	15
102-44	Key Topics and Concerns Raised	15
Reporting Practice		
102-45	Entities Included in the Consolidated Financial Statements	14
102-46	Defining Report Content and Topic Boundaries	16
102-47	List of Material Topics	15
102-48	Restatements of Information	16
102-49	Changes in Reporting	16
102-50	Reporting Period	16
102-51	Date of Most Recent Report	16
102-52	Reporting Cycle	16
102-53	Contact Point for Questions Regarding the Report	16
102-54	Claims of Reporting in Accordance with GRI Standards	16
102-55	GRI Content Index	16
102-56	External Assurance	16

Topic-specific Standard Disclosures

Disclosure	Description	Page
Economic		
201	Economic Performance Management Approach	40
201-1	Direct Economic Value Generated and Distributed	40
201-2	Financial Implications Due to Climate Change	40
201-3	Benefits	41
201-4	Financial Assistance	41
204	Procurement Practices Management Approach	41
204-1	Proportion of Spending on Local Suppliers	42
Environment		
301	Materials Management Approach	18
301-1	Materials Used by Weight or Volume	18
301-2	Recycled Input Materials Used	18
302	Energy Management Approach	19
302-1	Energy Consumption within the Organization	19
302-2	Energy Consumption Outside of the Organization	19

Disclosure	Description	Page
Environment		
302-3	Energy Intensity	19
303	Water Management Approach	20
303-1	Water Withdrawal by Source	20
304	Biodiversity Management Approach	21
304-3	Habitats Protected or Restored	21
304-4	Habitats in Areas Affected by Operations	21
305	Emissions Management Approach	22-23
305-1	Direct (Scope 1) GHG Emissions	22
305-2	Energy Indirect (Scope 2) GHG Emissions	22
305-3	Other Indirect (Scope 3) GHG Emissions	22
305-4	GHG Emissions Intensity	23
305-5	Reduction of GHG Emissions	23
305-7	Nitrogren Oxides (Nox), Sulfur Oxides (Sox), and Other Significant Air Emissions	23
306	Effluents and Waste Management Approach	24
306-1	Water Discharge by Quality and Destination	25
306-2	Waste by Type and Disposal Method	24
307	Environmental Compliance Management Approach	25
307-1	Non-Compliance with Environmental Laws and Regulations	25
Social		
401	Employment Management Approach	28
401-1	Employee Hires and Turnover	28
401-2	Benefits Provided	28
401-3	Parental Leave	28
402	Labor and Management Relations Management Approach	29
402-1	Minimum Notice Regarding Operational Changes	29
403	Occupational Health and Safety Management Approach	29
403-1	Workers Representation	30
403-2	Types and Rate of Injury	30

Disclosure	Description	Page
Social		
403-3	Workers with High Incidence or High Risk of Disease Related to Occupation	30
403-4	Health and Safety Topics	30
404	Training and Education Management Approach	31
404-1	Average Hours of Training Per Year Per Employee	31
404-2	Programs for Upgrading Employee Skills & Transition Assistance Programs	31-32
404-3	Percentage of Employees Receiving Regular Performance Reviews	32
405	Diversity and Equal Opportunity Management Approach	32
405-1	Diversity of Governance Bodies and Employees	32-33
413	Local Communities Management Approach	33
413-1	Operations with Local Community Engagement	34
416	Consumer Health and Safety Management Approach	36
416-1	Assessment of the Health and Safety Impacts	36
416-2	Incidence of Non-Compliance Concerning Health and Safety	36

Master Data Table

	UOM	2018	2017	2016
PRODUCTION AND SHIPMENTS				
Containerboard Production	thousand tons	4,081	3,881	3,736
Corrugated Shipments	billion square feet (BSF)	59	56	51
White Paper (UFS) Production	thousand tons	1,017	1,118	1,127
Market Pulp Production	thousand tons	0	0	45
EMPLOYEES				
Total Employees		14,950	14,593	-
Total Salaried Employees		4,495	4,750	-
Total Hourly Employees		10,455	9,843	-
Employees Covered by Collective Bargaining Agreements (CBA)		6,691	6,652	-
Hourly Employees in CBA as % of Total Hourly Employees		64%	68%	-
Employees in CBA as % of All Employees		45%	46%	-
Percentage of Female Employees		17%	16%	-
Percentage of Male Employees		83%	84%	-
Percentage of Full Time Employees		99.94%	99.85%	-
Percentage of Part Time Employees		0.06%	0.15%	-
Percentage of Employees in USA		99.73%	99.74%	-
Percentage of Employees in Canada		0.16%	0.13%	-
Percentage of Employees in Hong Kong		0.11%	0.13%	-
ECONOMIC PERFORMANCE				
Direct Economic Value Generated - Net Sales	millions of dollars	$7,014.6	$6,444.90	$5,779
Costs of Sales, including Wages	millions of dollars	$(5,369.3)	$(4,974.10)	$(4,502.9)
Selling and Administrative Expenses	millions of dollars	$(577.6)	$(538.30)	$(492.8)
Payments to Providers of Capital - Interest	millions of dollars	$(97.2)	$(103.90)	$(94.8)
Payments to Providers of Capital - Dividends	millions of dollars	$(268.1)	$(237.60)	$(216.1)
Payments to Governments - Taxes	millions of dollars	$(140.8)	$(298.70)	$(222.1)
Total Economic Value Retained	millions of dollars	$561.6	$292.30	$250.3

	UOM	2018	2017	2016
MATERIALS - WOOD FIBER SOURCING				
First-use (virgin) fiber Sourced	Green Short Tons	14,576,805	14,307,419	14,225,062
Percent by Weight of First-use Fiber Certified Sourced		31%	32%	28%
Percent by Weight of First-use Fiber PEFC Certified Sourced		27%	27%	26%
Percent by Weight of First-use Fiber FSC Certified Sourced		4%	5%	2%
Recovered Fiber Sourced	Air Dried Short Tons	1,073,236	1,051,334	969,131
Market Pulp Sourced	Air Dried Short Tons	138	2,664	1629
ENERGY				
Energy Consumption from Non-renewable Fuel	million GJ	30.6	27.8	30.4
Percentage of Non-renewable Fuel from Natural Gas		96.4%	95.3%	95.4%
Percentage of Non-renewable Fuel from Tire-derived Fuel		1.4%	2.8%	2.5%
Percentage of Non-renewable Fuel from Diesel		1.4%	0.7%	0.7%
Percentage of Non-renewable Fuel from Propane		0.5%	0.4%	0.4%
Percentage of Non-renewable Fuel from Fuel Oil		0.3%	0.4%	0.4%
Percentage of Non-renewable Fuel from Coal		0.1%	0.3%	0.5%
Percentage of Non-renewable Fuel from Gasoline		0.1%	0.1%	0.1%
Energy Consumption from Renewable Fuel	million GJ	73.3	72.9	73.1
Percentage of Renewable Fuel from Black Liquor Solids		67.7%	67.5%	68.0%
Percentage of Renewable Fuel from Bark		29.0%	30.2%	29.8%
Percentage of Renewable Fuel from Railroad Crossties		2.2%	1.4%	1.2%
Percentage of Renewable Fuel from Wastewater Residuals		0.9%	0.8%	0.8%
Percentage of Renewable Fuel from Biogas		0.2%	0.2%	0.2%
Energy Consumed from Purchased Electricity	million GJ	9.7	9.0	9.4
Energy Consumed from Purchased Steam	million GJ	9.4	8.5	8.9
Energy Consumed from Self-generated Hydroelectricity	million GJ	<0.1	<0.1	<0.1
Total Energy Consumed	million GJ	113.9	110.1	113.2
Percentage of Total Energy Consumed by Containerboard Mills		72%	63%	62%
Percentage of Total Energy Consumed by White Paper Mills		24%	33%	34%
Percentage of Total Energy Consumed by Packaging Plants and Other		4%	4%	4%

	UOM	2018	2017	2016
WATER				
Total Water Withdrawn	million cubic meters	280.3	288.2	283.5
Surface Water Withdrawn	million cubic meters	197.7	203.9	193.9
Percentage of Surface Water for Process		60.9%	59.8%	59.0%
Percentage of Surface Water for Cooling		38.9%	40.0%	40.8%
Percentage of Surface Water for Potable		0.2%	0.2%	0.2%
Ground Water Withdrawn	million cubic meters	79.3	83.8	87.9
Percentage of Ground Water for Process		85.5%	82.8%	84.7%
Percentage of Ground Water for Cooling		14.3%	16.9%	15.1%
Percentage of Ground Water for Potable		0.2%	0.3%	0.3%
Municipal Water Withdrawn by Mills	million cubic meters	1.9	0.5	1.7
Municipal Water Withdrawn by Packaging Plants	million cubic meters	1.3	-	-
Water Withdrawal Intensity	effluent gallons/ton of containerboard	7,673	7,517.0	7,838
EMISSIONS				
Scope 1 GHG Emissions	million metric tons CO_2-e	1.70	1.56	1.70
Percentage of Scope 1 emissions from Packaging Plants		10.5%	10.7%	10.0%
Percentage of Scope 1 emissions from Containerboard Mills		60.7%	53.8%	52.7%
Percentage of Scope 1 emissions from White Paper Mills		27.6%	35.5%	37.3%
Percentage of Scope 1 emissions from Other		1.2%	-	-
Scope 1 GHG Emissions from Company-owned Landfills (1yr lag)		0.10	-	-
Scope 2 GHG Emissions	million metric tons CO_2-e	1.28	1.34	1.38
Percentage of Scope 2 emissions from Packaging Plants	million metric tons CO_2-e	13.7%	12.8%	12.1%
Percentage of Scope 2 emissions from Containerboard Mills		66.0%	59.1%	56.0%
Percentage of Scope 2 emissions from White Paper Mills		20.1%	28.0%	31.9%
Percentage of Scope 2 emissions from Other		0.2%	-	-
Scope 3 GHG Emissions	million metric tons CO_2-e	0.22	-	-
Percentage of Scope 3 emissions from Packaging Plants		43.6%	-	-
Percentage of Scope 3 emissions from Containerboard Mills		52.3%	-	-
Percentage of Scope 3 emissions from White Paper Mills		4.1%	-	-
Total GHG Emissions		3.30	2.90	3.09
Biogenic CO_2 Emissions	million metric tons CO_2	6.55	6.52	6.54
Nitrogen Oxides (NOx) Air Emissions	thousand metric tons	6.4	6.4	6.7

	UOM	2018	2017	2016
EMISSIONS				
Percentage of NOx emitted from Containerboard Mills		79.7%	70.3%	71.2%
Percentage of Nox emitted from White Paper Mills		20.3%	29.7%	28.8%
Sulfur Dioxide (SO_2) Air Emissions	thousand metric tons	1.5	2.0	1.9
Percentage of SO2 emitted from Containerboard Mills		89.7%	52.0%	57.6%
Percentage of SO2 emitted from White Paper Mills		10.3%	48.1%	42.4%
CO_2-e per Ton of Containerboard	ton of CO_2-e/ton of containerboard	0.51	0.48	0.54
WASTE AND EFFLUENT				
Process Waste Beneficially Reused (Mills)	thousand metric tons	243.5	249.8	244.1
Percentage of Beneficially Reused Waste (Mills): Land Applied		78.7%	78.4%	86.2%
Percentage of Beneficially Reused Waste (Mills): Recycled		21.3%	21.6%	13.8%
Corrugated Recycled (DLK) from Packaging Plants		282.3	255.3	244.6
Process Waste to Landfill (Mills)	thousand metric tons	237.4	201.5	172.3
Process Waste to Landfill (Packaging Plants)	thousand metric tons	14.6	-	-
Total Process Waste	thousand metric tons	777.80	706.60	661.00
Total Planned Water Discharges at Mills	million cubic meters	252.4	270.0	268.8
Percent of Planned Water Discharges at Mills from Cooling		17.8%	27.4%	24.9%
Percent of Planned Water Discharges at Mills from Receiving		82.2%	72.6%	75.1%
Biological Oxygen Demand (BOD)	lbs/ton of production	1.88	1.69	1.65
Containerboard Mills BOD	lbs/ton of production	1.71	1.23	0.97
White Paper Mills BOD	lbs/ton of production	2.64	3.01	3.54
Total Suspended Solids (TSS)	lbs/ton of production	3.24	2.81	2.59
Containerboard Mills TSS	lbs/ton of production	3.09	1.93	1.57
White Paper Mills TSS	lbs/ton of production	3.87	5.36	5.41
EMPLOYMENT				
Total New Hires - Females		449	409	-
Total New Hires - Males		1978	1,151	-
Total New Hires Under 30 Years Old		1060	660	-
Total New Hires 30-50 Years Old		1030	592	-
Total New Hires Over 50 Years Old		337	308	-
Grand Total New Hires		2427	1,560	-

	UOM	2018	2017	2016
EMPLOYMENT				
Total Terminations - Females		397	371	-
Total Terminations - Males		1880	1,737	-
Total Terminations of Employees Under 30 Years Old		698	680	-
Total Terminations of Employees 30-50 Years Old		861	769	-
Total Terminations of Employees Over 50 Years Old		718	659	-
Grand Total of Employees Terminated		2,277	2,108	-
Employee Turnover Rate			14.50%	-
OCCUPATIONAL HEALTH AND SAFETY				
Employee days away, restricted or transferred (DART)	Cases x 200,000/Total Hours Worked	0.92	0.89	0.7
Employee lost time case rate (LTCR)	Cases x 200,000/Total Hours Worked	0.37	0.37	0.35
Employee total case rate (TCR)	Cases x 200,000/Total Hours Worked	1.67	1.57	1.35
Employee Fatalities		0	0	0
TRAINING AND EDUCATION				
eLearning Books Available		18,522	16,804	-
eLearning Skillsoft Courses Available		1,984	1,935	-
eLearning Custom Courses Available		427	376	-
Other eLearning Resources Available		2,131	3,487	-
eLearning Videos Available		8,467	8,198	-
Female Participating eLearning Users		1,542	1,157	-
Female eLearning Course Completions		2,556	1,874	-
Male Participating eLearning Users		3,277	2,945	-
Male eLearning Course Completions		5,431	4,372	-
Total Participating eLearning Users		4,819	4,102	-
Total eLearning Training Time	hours	11,487	7,450	-
Total eLearning Course Completions		7,987	6,246	-
Female Employee Participation in Degree Pursuit Program		45	41	-
Male Employee Participation in Degree Pursuit Program		37	35	-
Total Participation in Degree Pursuit Program		82	76	-
Total Contribution for Degree Pursuit Program	US dollars	$396,500	$374,400	

	UOM	2018	2017	2016
DIVERSITY AND EQUAL OPPORTUNITY				
Number of Female Directors		1	1	-
Number of Male Directors		10	10	-
Number of Directors 30-50 Years Old		1	1	-
Number of Directors Over 50 Years Old		10	10	-
Number of Male Directors 30-50 Years Old		1	1	-
Number of Male Directors Over 50 Years Old		9	9	-
Number of Female Directors Over 50 Years Old		1	1	-
Total Number of Directors		11	11	-
Number of Female Officers		4	4	-
Number of Male Officers		25	22	-
Total Number of Officers		29	26	-
Number of Employees Under 30 Years Old		2,392	2341	-
Number of Employees 30-50 Years Old		6,428	7,023	-
Number of Employees Over 50 Years Old		6,130	5,267	-
Number of Female Employees Under 30 Years Old		347	374	-
Number of Female Employees 30-50 Years Old		1,097	1,123	-
Number of Female Employees Over 50 Years Old		1,078	843	-
Total Number of Female Employees		2,522	2,340	-
Number of Male Employees Under 30 Years Old		2,045	1,967	-
Number of Male Employees 30-50 Years Old		5,331	5,900	-
Number of Male Employees Over 50 Years Old		5,052	4,424	-
Total Number of Male Employees		12,428	12,291	-
Percent of Total Employees Under 30		16%	16%	-
Percent of Total Employees 30-50 Years Old		43%	48%	-
Percent of Total Employees Over 50 Years Old		41%	36%	-
Percentage of Total Employees who are Female		17%	16%	-
Percentage of Total Employees who are Male		83%	84%	-
COMMUNITIES				
Donations to Colleges and Universities	US dollars	$2,100,000	-	-
General Charitable Donations	US dollars	$466,000	-	-

Glossary

ADS Tons – Air Dried Short Tons. Pulp is generally reported as an air-dried product that is assumed to be 10% water and 90% dry pulp.

American Tree Farm System (**ATFS**) – A group that works with private land owners to help them be effective stewards of forests.

Biological Oxygen Demand (**BOD**) – The amount of dissolved oxygen needed by aerobic biological organisms to break down organic material. Used to measure water quality.

Biomass Energy – Energy derived by combusting fuel that is developed from organic material, in PCA's case pulping by-products like black liquor solids and wood waste (bark, knots, etc.). Renewable source of energy.

Black Liquor – The remaining water, after chemical reclamation processes, from Kraft process pulping operations. Contains significant lignin and hemicelluloses. Typically processed to drive off water, and to combust the biogenic material remaining to provide heat, steam and electricity to power mill processes.

California Transparency in Supply Chains Act of 2010 – Requires larger manufacturers and certain others that do business in California to publicly disclose their efforts to eradicate slavery and human trafficking from their supply chains.

Carbon Dioxide Equivalent (**CO_2e**) – Measure used to compare emissions when fossil fuels such as coal, oil, and gas are burned – in equivalence to the global warming potential of Carbon Dioxide.

Caustic Soda – Sodium Hydroxide. NaOH, a strong base used in pulping processes.

Chain of Custody – A certification that connects materials or products back to their original source. In the case of forest products, like PCA's, it requires connecting and documenting sequential steps through the supply chain, from the original procurement of fiber, whether from recycled or certified forests, through each subsequent stage of processing and distribution.

"Codex" – short for Codex Alimentarius. The Codex Alimentarius is a commission recognized by the World Trade Organization as an international reference point for the resolution of disputes concerning food safety and consumer protection. The Commission's main goals are to protect the health of consumers and ensure fair practices in the international food trade.

Containerboard – Paperboard specifically made for the construction of corrugated packaging (linerboard and corrugating medium). It is also used, to a lesser degree, in the manufacture of several other types of packaging.

Days Away Restricted or Transferred (**DART**) – Refers to the number of recordable (human health and safety) incidents per 200,000 hours worked that resulted in work days where the employee was assigned to a different task, restricted in their duties or transferred due to work related injuries or illness.

Direct Emissions (**Scope 1**) – Greenhouse gas emissions directly controlled by PCA.

Double-lined Kraft (**DLK**) – Corrugated scrap from box making. Considered pre-consumer recycled material.

"Dual-Chain" (**Dual Chain-of-Custody**) – PCA's Sheet Plants are certified to SFI® and PEFC™ and are thus described as dual chain of custody.

ECF (**Elemental Chlorine Free**) – A method of bleaching wood fiber from its natural color to white in various brightness levels.

First-Use (**Fiber**) – Fiber that has been produced (pulped) directly from wood and is being used in its first "cycle" – prior to typically being recaptured and recycled back into fiber-based products like paper, containerboard, tissue and similar.

Family and Medical Leave Act (**FMLA**) – US law that permits employees to take unpaid time away from work to address health and family matters.

Forest Stewardship Council (**FSC**) – An international sustainable forestry Non-Governmental Organization. Known for their voluntary standards on the topic.

Fossil Fuel – Fuels such as gas, oil, coal, petroleum, kerosene, propane etc. Naturally found, finite resources, used for energy production.

FSSC22000 – Food Safety System Certification 22000. Non-Governmental Organization that produces food safety standards, which are benchmarked and accepted by the Global Food Safety Initiative. Fastest growing standards in terms of adoption in

USA and Europe. PCA's Full-Line Packaging operations are predominantly certified to FSSC22000.

Global Food Safety Initiative (**GFSI**) – Initiative created by food industry and retail leaders to collaboratively drive continuous improvement in food safety management systems around the world.

Green Ton – Weight of trees as they are harvested with full moisture content, about 50% water weight.

Greenhouse Gas (**GHG**) – Gases like carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons (CFCs) that absorb and emit radiant energy like.

Indirect Emissions (**Scope 2**) – Emissions from the consumption of purchased electricity, steam, energy, etc. generated upstream of, but purchased by, PCA.

International Union for Conservation of Nature (**IUCN**) – Considers itself the global authority on the status of the natural world and measures to safeguard it.

Kraft – A paper and paperboard making process that utilizes cooking (rather than mechanical processes) to produce wood pulp from solid wood. Frequently used to produce high-strength paper and paperboard from softwood (coniferous) timber. Frequently employed to produce linerboard (the outer facings of corrugated fiberboard).

Linerboard – Containerboard specifically produced to be utilized as an outer-facing in corrugated fiberboard and packaging.

Lost Time Case Rate (**LTCR**) – A mathematical calculation that describes the number of lost time cases per 100 full-time employees in any given timeframe.

Materiality – Determination of that which is relevant or significant.

Metric ton – Also called a long ton. A unit of weight equal to 2,240 pounds or 1,000 kilograms. Differentiated from a short ton, which is equal to 2,000 pounds

MRR – Mandatory Reporting Regulation. EPA issued regulations regarding mandatory reporting on GHG, defining what must be reported and by whom.

NatureServe – A network of scientists who collect decision-quality data about species and ecosystems. Used by PCA to protect biodiversity rich areas.

NOx – Term used to refer to nitric oxide (NO) and nitrogen dioxide (NO_2) that are produced when fuel is burned. It can contribute to smog and have health implications.

"Old Corrugated Containers" (**OCC**) – Used corrugated packaging that has been recaptured for purposes of recycling. OCC has a recapture rate of between 85 and 95% in the USA.

Occupational Safety and Health Administration (**OSHA**) – United States Department of Labor group charged with assuring safe and healthy working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance.

Other Indirect Emissions (**Scope 3**) – Greenhouse gas emissions occurring in the value chain, which PCA may have some influence, but limited control.

Particulate Matter (**PM**) – Microscopic solid particles or liquid droplets found in the air. Can impact respiratory health and air quality.

Programme for the Endorsement of Forest Certification (**PEFC**) – PEFC is an international sustainable forestry standard/endorsement group and Non-Governmental Organization. PEFC writes standards on the topic and recognizes other National or Regional Standards after benchmarking to their requirements. PCA has earned a chain of custody certificate from PEFC. PEFC recognizes and endorses SFI certification of fiber sourcing.

Renewable Resources – Resources that can replenish themselves naturally over time, i.e. wood products.

Sustainability Accounting Standards Board (**SASB**) – Provides sustainability accounting standards. Controlled by a foundation, founded by Michael Bloomberg.

Semi-Chemical (**Corrugating Medium**) – Containerboard specifically produced to serve as corrugating medium (to be fluted and bonded into the center of a corrugated sheet). Produced with a combination of mechanical and chemical-cooking processes.

Short Ton (**net ton**) – A unit of weight equal to 2,000 pounds. Differentiated from the long (gross) ton which is equal to 1,000 kilograms, or 2,240 pounds.

SO_2 – Sulfur dioxide is formed when fuels like oil and coal are burned. In sufficient concentrations, can lead to the acidification of water and soil.

SQF – "Safe-Quality-Food" Initiative/Program. Non-Governmental Organization that produces food safety standards, several of which are benchmarked/accepted by the Global Food Safety Initiative. PCA Colby is certified to SQF-Level 2.

Stakeholder – An individual or entity that has a concern or interest in a business.

"Standards Act" (**FLSA**) **US Federal Labor Standards Act** – US federal law declaring the federal minimum wage and hour requirements for employees along with overtime eligibility. It also divides employees into exempt and non-exempt (regarding eligibility for overtime pay).

Sustainable Forestry Initiative (**SFI**) – SFI is a North American Non-Governmental Organization that supports sustainable forestry standard and writes standards on the subject. PCA has the chain of custody and several sourcing certifications.

Terminations – Employees who have voluntarily or involuntarily left employment in the reporting year.

Title VII of the Civil Rights Act of 1964 – Federal Law that prohibits employers from discriminating against employees on the basis of sex, race, color, national origin, and religion.

Total Case Rate (**TCR**)**, officially Total Incidence Rate** (**TIR**) – A mathematical calculation that describes the number of employees per 100 full-time employees that have been involved in an injury or illness requiring medical treatment.

Total Suspended Solids (**TSS**) – The dry weight of suspended particles that do not dissolve in water. These can be separated using a filter. Used to measure water quality.

"Triple-Chain" (**Triple Chain-of-Custody**) – PCA's Mills and Plants that are certified to all three sustainable forestry standards (SFI, PEFC, and FSC) and are thus commonly referred to as triple chain of custody.

Turnover – Percentage of employees who have voluntarily or involuntarily left employment in the reporting year.

Vertically Integrated – A strategy and corporate architecture where a company owns and operates several operations or entities in order to manufacture in several steps from raw-materials to finished/offered products. PCA is a vertically integrated packaging and paper company.

Citations

"Industry Averages" used for safety metrics graphs in our Occupational Health & Safety disclosure are from U.S. Bureau of Labor Statistics, U.S. Department of Labor. TABLE 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, 2017. (Paper manufacturing industry, NAICS code 322)

"Industry Benchmarks" and "Industry Targets" used in graphs throughout our Environmental topic disclosures are from the AF&PA Sustainability Report, 2018.

PCA is the third largest producer of containerboard and corrugated products in North America. We manufacture many grades of kraft linerboard and corrugating medium at our containerboard mills and produce a wide variety of corrugated containers and displays at our converting facilities.

Boise Paper is the third largest producer of uncoated freesheet in North America. Our team is dedicated to providing high-quality products, outstanding customer service and industry-leading supply chain performance, with a product portfolio that includes office papers and printing and converting papers.

v1.201_20190805