PACKAGING CORPORATION OF AMERICA

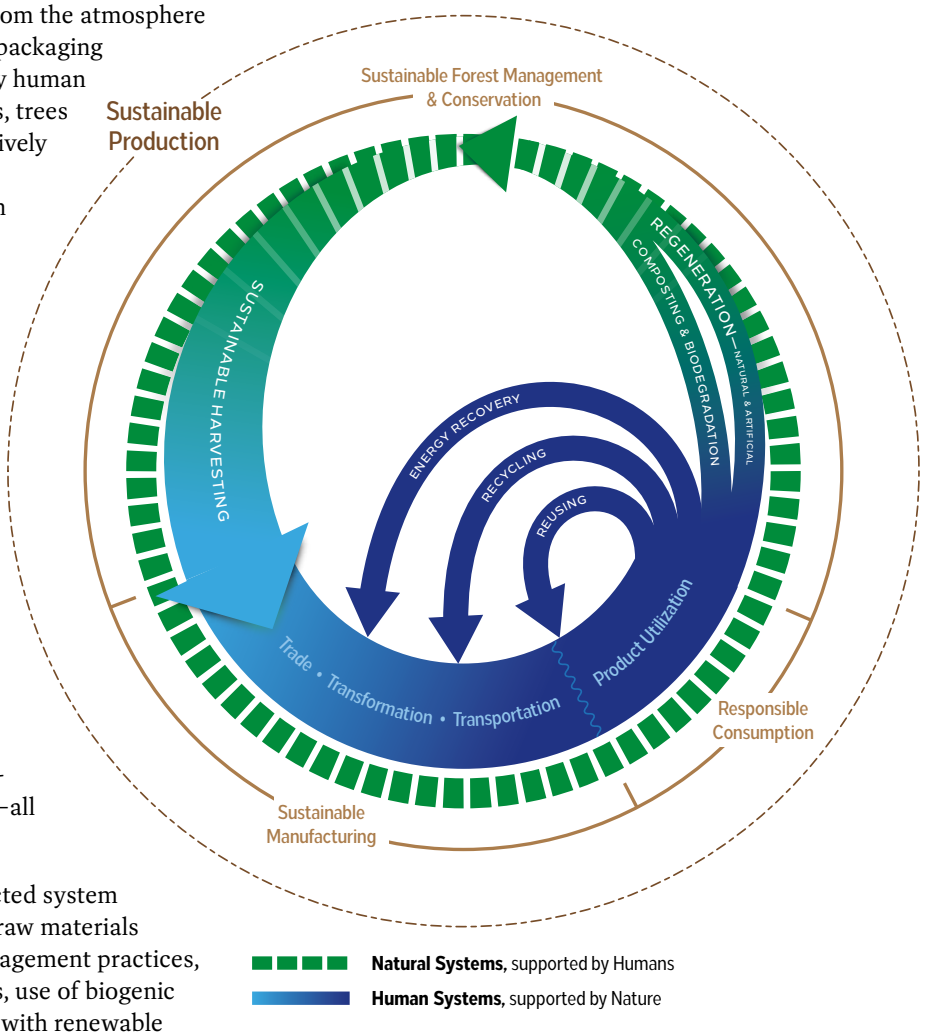
value

2023 RESPONSIBILITY REPORT

Our Circular Bioeconomy

For decades, the pulp and paper industry has embodied the **principles of circularity** by strategically managing resources such as wood fiber, water, chemicals and energy. These practices create **value** for our customers and stakeholders by reducing environmental impacts and enhancing cost efficiency.

Our 2022 Responsibility Report demonstrated how it all starts with a tree. Trees first grow and remove CO_2 from the atmosphere before being transformed into paper and packaging solutions that are an essential part of daily human life. To provide enduring natural resources, trees that are harvested are replaced and effectively managed. PCA foresters and our strategic partners collaborate to improve the health of working forests, which in turn supply the raw materials that our operations transform into sustainable products including biogenic/renewable energy from waste that is used to power our operations. PCA's commitment to our circular bioeconomy is outlined in our **Sustainable Business Principles** on page 7 of this report.



PCA designers and packaging engineers collaborate with our customers to develop right-sized, high-performing packaging solutions that are widely recycled and sometimes reused.[1] As illustrated in the accompanying graphic, our circularity is depicted by our sustainable forest management, sustainable manufacturing and responsible consumption—all pivotal for sustaining biodiversity.

We inhabit a single planet, an interconnected system upon which all life depends. PCA's use of raw materials from carbon sinks, sustainable forest management practices, adherence to voluntary fiber certifications, use of biogenic fuels from wood waste to power our mills with renewable energy, high recovery rates and multiple end-of-life options for our products, and our pursuit of carbon capture technologies that aim to result in net-zero emissions from our operations and supply chain by 2050, offer reasons for optimism as we work to avoid the worst impacts of climate change while creating **value** for all of our stakeholders.

PCA and our industry's commitment to a circular bioeconomy not only safeguards natural resources but also illustrates a practical path toward achieving ambitious sustainability goals. Together, we can foster an environment where both natural and human systems thrive in harmony.

[1] More than 93% of old corrugated containers (OCC) were recycled in 2022—an increase from 2021 and, overall, a three-year average of 91.3%. While in 2022, the paper recycling rate was nearly 68%, holding approximately stable to the 2021 rate. | AF&PA (afandpa.org)

About This Report

This is PCA's 2023 Responsibility Report that covers our operations from January 1 through December 31 and focuses on the progress, initiatives, goals and achievements of Environmental, Social and Governance (ESG) priority topics in 2023 and our preparations for 2024 and beyond.

This report is produced with guidance and considerations of the Global Reporting Initiative (GRI) Universal Standards, the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). This report has gone through several data validation, review and approval processes involving both PCA officers and senior management employees on topics in their respective areas of responsibility as well as approval by the Sustainability Committee of our Board of Directors, which includes our Chairman and Chief Executive Officer (CEO).

For questions about the content of this report, please contact: responsibility@packagingcorp.com.

Executive Statement

Mark W. Kowlzan
Chairman and Chief Executive Officer

June 28, 2024

To all Stakeholders,

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 create value for all our stakeholders. In last year's Responsibility Report, we shared our goal to become a net-zero carbon emissions company by 2050 and our intentions to explore biogenic carbon capture and storage (CCS), which represents the next frontier for our circular bioeconomy.

During 2023, we made considerable progress advancing our exploration of CCS with the selection of a technology partner, the completion of a feasibility study, the planning and arrangement for a pilot trial to begin in the third quarter of 2024, discussions with potential carbon dioxide (CO_2) transport and storage partners, monitoring of federal and state-level legislation and permit processes, and the continued advancement of our in-house Carbon Neutrality team's knowledge base, including a site visit to tour and learn about a similar technology already in use in a different industry.

While our goal to have our first CCS facility operational by the end of 2028 remains on schedule, we are not relying on CCS to reach our short-term climate target. To achieve our 2030 target, our plan includes investing in energy attribute certificates for more than half of this target, which financially supports the development of large-scale renewable energy projects bringing additional carbon-free energy capacity to North America. During 2023, we evaluated several developers and projects and bid on a large-scale project. We are continuing our efforts and bidding and remain on track for our 2030 target.

For two decades, PCA has created value from robust, strategic, cost-reducing and process improvement capital spending in our converting facilities and mills. Moving forward, to ensure all major mill capital projects consider the impact on our carbon footprint, we have implemented an internal price on carbon to evaluate changes in scopes 1 and 2 emissions and to broadly engage our employees in helping us identify opportunities for low-carbon or emission-free alternatives.

We continue to believe we are in a strong position to achieve net-zero carbon emissions by 2050. Our confidence is due to our sourcing of primary raw materials from carbon sinks (sustainably managed forests), creation and use of biogenic energy from wood waste, high product recycling rates, our proven track record of effective capital deployment, the capabilities of our people, and our potential to capture and permanently store biogenic CO_2.

VISION AND STRATEGY

Sustainable Business Principles

Materiality

Stakeholder Engagement

ESG Leadership and Governance

Sustainable Business Principles

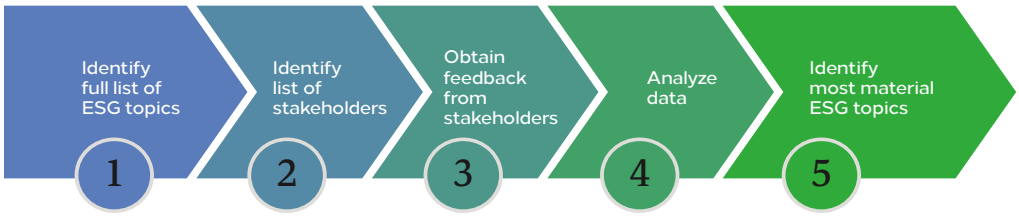
PCA's Sustainability Committee of the Board of Directors formalized nine *Sustainable Business Principles* to align our strategies, set goals for the organization and report our progress through the year 2050.

1. **Prioritize the health and safety of our employees above all else** to achieve a workplace free from serious injuries and fatalities.
2. **Build a resilient culture** oriented toward serving the needs of one another, and our stakeholders.
3. **Invest in our people, our operations, technology and science, and our communities** to attain unparalleled employee engagement, operational excellence and customer satisfaction.
4. **Make a continuous effort to maximize the efficiency of everything we do** to reduce the consumption of raw materials and minimize waste in all its forms.
5. **Uphold the principles of sustainable forest management** to provide ecological, social and economic benefits to the communities where we operate.
6. **Increase the use of renewable or carbon-free energy sources** until greenhouse gas emissions from fossil fuels have been effectively mitigated.
7. **Be a good steward of the watersheds and aquifers we depend on** by understanding water as a shared resource and collaborating with others to ensure water security.
8. **Manufacture high-quality, high-performance products** from responsibly sourced renewable materials that are recyclable or reusable.
9. **Act with integrity and use responsible business practices** to earn the trust of our stakeholders.

Materiality

Our materiality approach is guided by our commitment to being a responsible business and creating value for our stakeholders. Conducting a materiality assessment helps us understand our most important and significant ESG topics for managing long-term economic risks and is foundational to our ongoing ESG strategies and priorities. The five-step process to our materiality assessment can be observed below:

Five-Step Process to Materiality Analysis

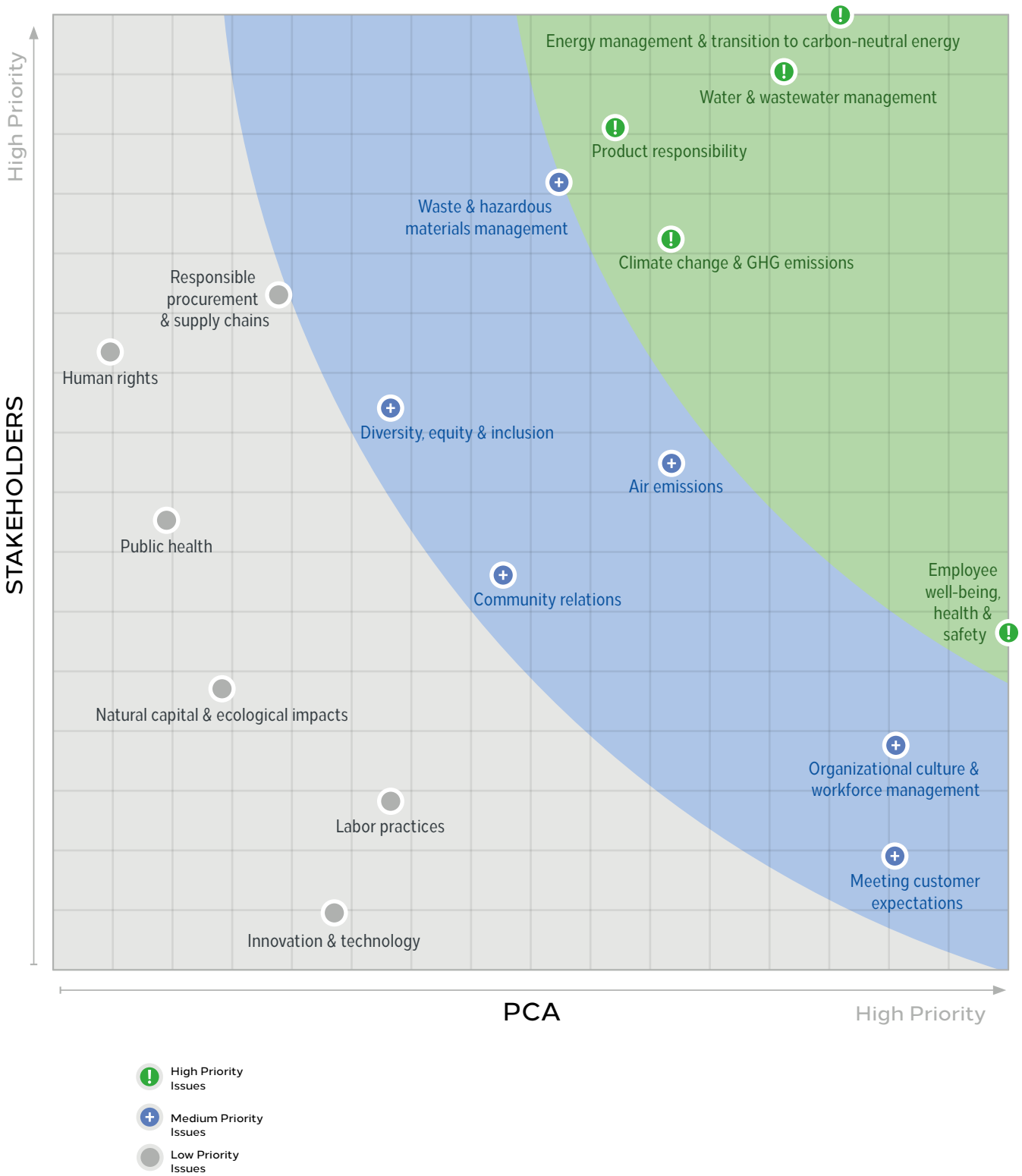


By leveraging Datamaran's data analytics platform and expertise, PCA has identified a set of sector-specific ESG risks and opportunities that are material to the company. In 2023, we updated our list of material topics. We also conducted a thorough review of PCA's core Environmental, Social and Governance priorities, reflecting the changes in the risks and opportunities that the company faces.

A Comparison Between 2022 and 2023 Materiality Topics

Compared with 2022, the majority of our material topics remain unchanged. For topics that have changed in priority, the most meaningful changes included public health and air emissions, which both were lowered in priority. Topics that slightly increased in priority included waste and hazardous materials management, human rights, water and wastewater management, and responsible procurement and supply chain management.

Our Materiality Topics



Stakeholder Engagement

PCA engages with internal stakeholders every two years to evaluate ESG issues. We also regularly engage with trade organizations, industry associations and topic-based NGOs to understand the impacts PCA has on people and the planet, and the impact people and the planet have on PCA. This two-way approach helps us better understand risks and opportunities so that long-term risks are more effectively mitigated, and opportunities captured. Our primary stakeholders are individuals or groups that are or could be affected by PCA's activities, and they include shareholders, employees, customers, suppliers, communities, NGOs, government and regulators. Our ESG and Corporate Sustainability team meets at least once per year to discuss potential initiatives or programs based on the outcomes of these processes, and periodically to discuss planning and implementation. The Board Sustainability Committee oversees the company's practices, performance and strategy regarding environmental, health and safety, sustainability and corporate responsibility, and the full Board of Directors (Board) receives updates from the Chair of our Sustainability Committee. Our Sustainability Committee met four times in 2023 and is scheduled to meet four times in 2024. PCA highly values the feedback we receive from our stakeholder engagement exercises, and we use the results to inform and shape our sustainability strategies.

For more information on PCA's stakeholder engagement activities, see Employee Engagement and Corporate Giving, Customer Engagement, and Supplier Engagement sections of this report.

ESG Leadership and Governance

PCA has established a robust ESG Leadership and Governance structure that guides our ESG-related efforts. Each branch of our ESG team serves a specific and needed function that when brought together enables PCA to govern, monitor, address and engage on risks and opportunities that PCA faces. This all starts with our Board of Directors, which oversees the affairs of PCA and monitors management's performance. PCA's internal Carbon Neutrality team is co-sponsored by our Senior Vice President of Tax, ESG and Government Affairs and our Senior Vice President of Corporate Engineering and Process Technology, who both report on ESG matters directly to our Chief Executive Officer and our Board Sustainability Committee. This cross-functional team of company leaders meets nearly every week of the year to discuss and monitor company progress on ESG-related matters.

BOARD OF DIRECTORS*

Our Board of Directors comprised 10 members in 2023.

SUSTAINABILITY COMMITTEE

Oversight Areas

Environmental, Health and Safety compliance and performance; strategy and operational practices to reduce carbon emissions; and the company's communications and disclosure of sustainability and corporate responsibility matters.

COMPENSATION COMMITTEE

Oversight Areas

Compensation programs including executive and employee compensation, incentive and equity compensation plans, and regulatory compliance of compensation matters.

NOMINATING AND GOVERNANCE COMMITTEE

Oversight Areas

Identification and recommendation of individuals to the Board for nomination as members of the Board and its committees, and development and recommendation to the Board a set of corporate governance principles applicable to PCA.

AUDIT COMMITTEE

Oversight Areas

Integrity of financial statements; compliance with legal and regulatory requirements; the independent auditors' qualifications, independence and their performance; cyber risk; and the internal audit function.

CARBON NEUTRALITY TEAM

Co-sponsored by the Senior Vice President of Tax, ESG and Government Affairs and the Senior Vice President of Corporate Engineering and Process Technology, this cross-functional group of key engineering, environmental, operational, procurement, legal and sustainability personnel oversee the identification, evaluation and implementation of technologies and strategies to realize PCA's carbon neutrality goals.

ESG AND CORPORATE SUSTAINABILITY TEAM

Headed by the Senior Vice President of Tax, ESG and Government Affairs, our ESG and Sustainability team works cross-functionally in performing day-to-day operational tasks, implementing sustainability initiatives, and educating internal and external stakeholders on important topics.

RESEARCH AND INNOVATION CENTER

Led by the Vice President of Product Strategy and Quality, our Research and Innovation Center drives our product performance strategy. They develop innovative paper-based packaging products that improve sustainability. The Center supports our design and sales teams in collaborating with customers to create fiber-optimized, performance-based packaging solutions. They also develop proprietary tools and resources that support PCA's designers in engineering right-sized packaging solutions that conserve raw material inputs and energy.

* Throughout the year, the Board receives updates from the four committee chairs and our executive officers about the planning, implementation and execution of our business plans and material issues.

LEARN MORE

To learn more about PCA's corporate governance structure and practices, we encourage you to visit the Corporate Governance and Financial Reporting sections of our website, and review the related documents and financial reports.

OUR BUSINESS

NYSE PKG

Company Profile

At Packaging Corporation of America (PCA), we design and deliver innovative paper and packaging solutions to meet the growing demands of our customers' businesses. Our highly engaged and results-driven teams are focused on building relationships based on performance, value and trust.

PCA's entrepreneurial spirit empowers our people to do what's right for our customers. Our unwavering commitment to their success creates value for our customers—as acknowledged by their feedback—and has laid the foundation for a resilient organization that creates value for all our stakeholders: our people, our investors and the communities in which we operate.

14,900 Employees

$7.8 billion in Revenue

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 a leading 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.

Packaging Segment

7
Containerboard Mills

86*
Converting Operations

4.5 million
Tons of Containerboard

60.5 billion
Square Feet of Corrugated Products

14,000 Customers
30,000 Locations

Paper Segment

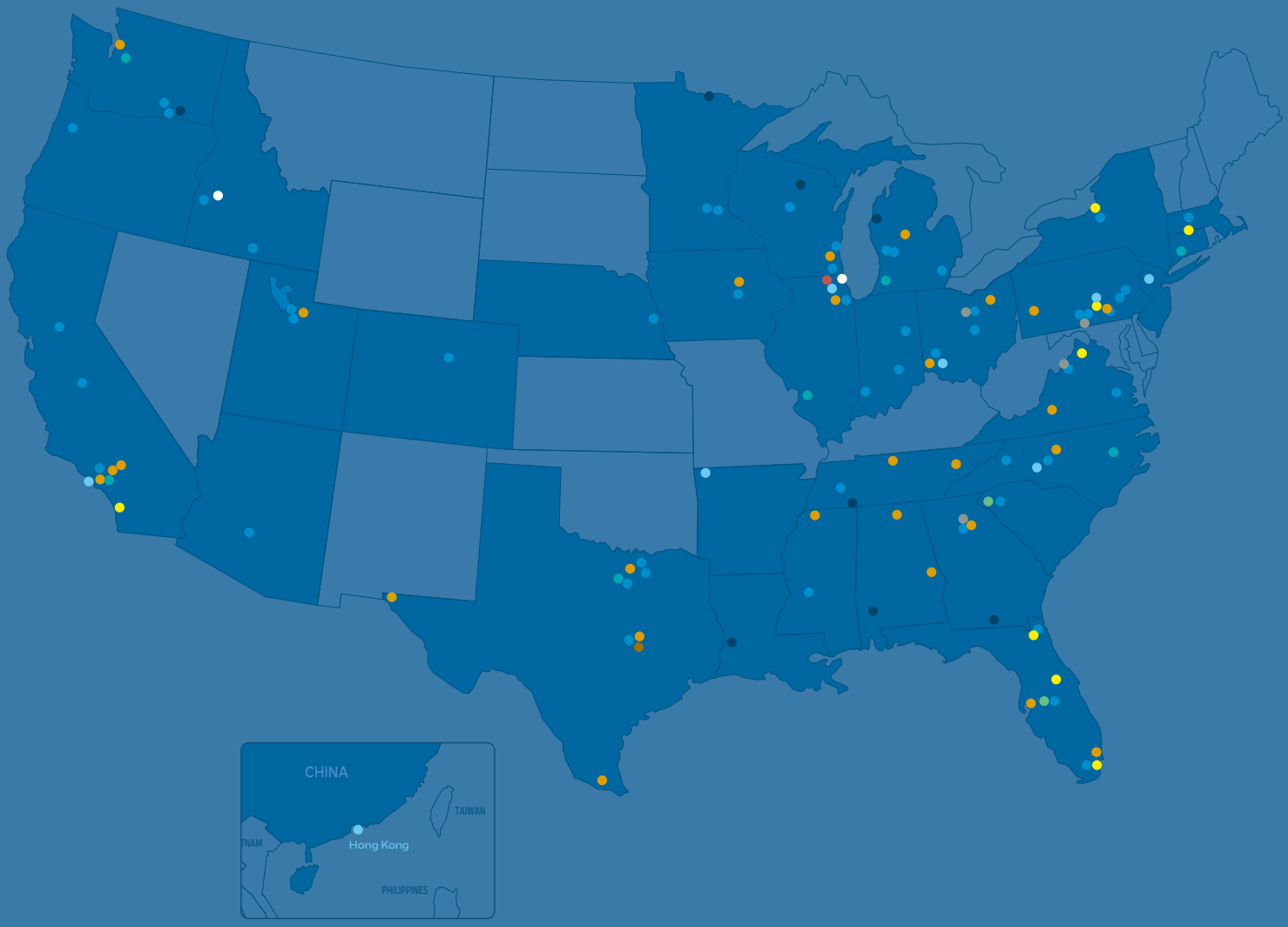
1
White Paper Mill

472 thousand
Tons of Uncoated Freesheet

40 Customers
150 Locations

* Number of facilities, as of June 2024

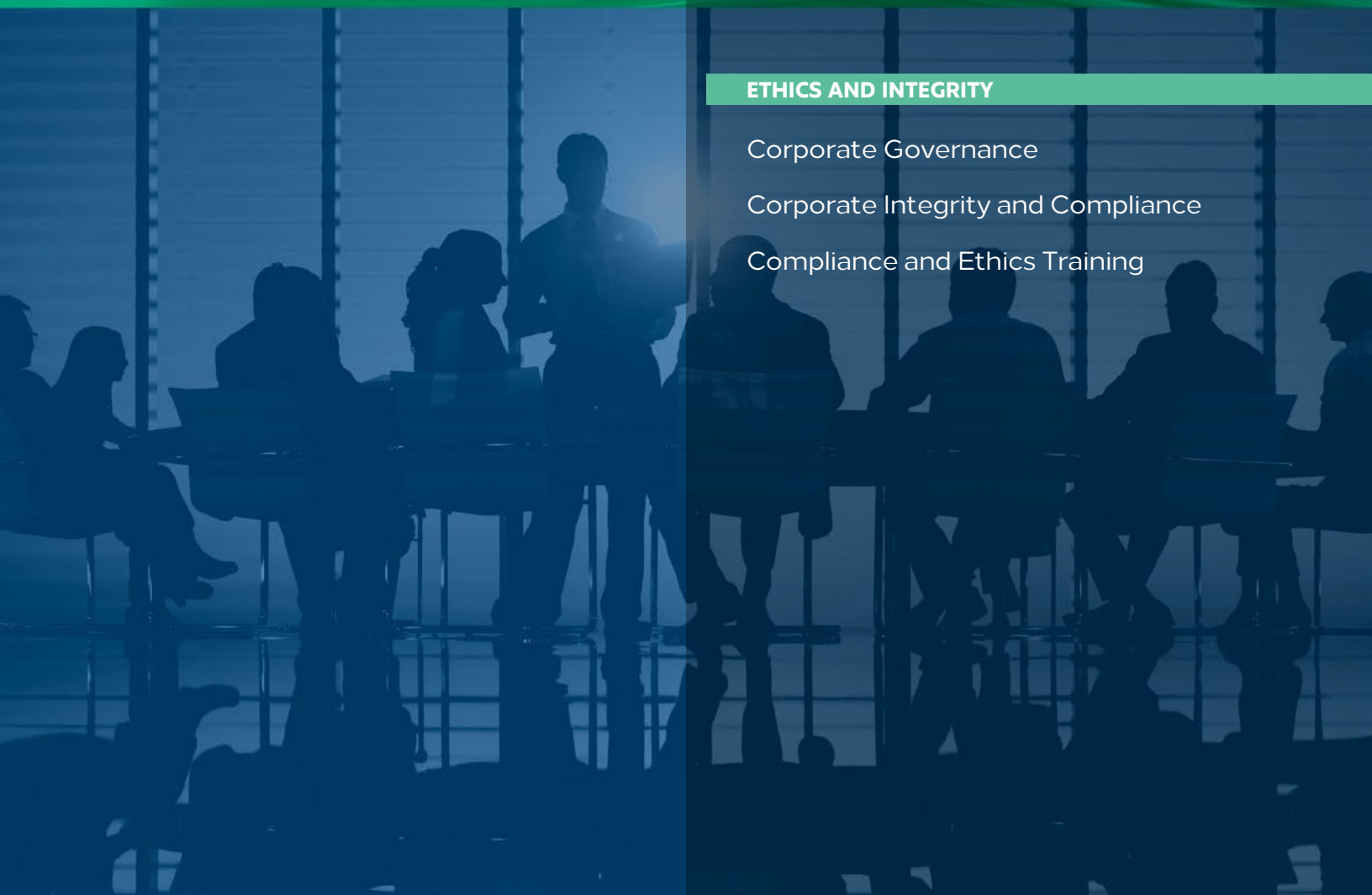
Map of Operations



Full-Line Plants
Sheet/Specialty Plants
Hexacomb Plants
Packaging and Supply Centers
Sheet Feeder
Retail Design Centers

Fulfillment Centers
Research and Innovation Center
Mills
Resource and Support Centers
Administrative Offices
Corporate Headquarters

POLICY AND PLANNING



ETHICS AND INTEGRITY

Corporate Governance

Corporate Integrity and Compliance

Compliance and Ethics Training

PCA is committed to conducting our business ethically and with utmost integrity. We aim to create a responsible company that values trust, transparency and accountability.

Corporate Governance

Our corporate governance reflects PCA's core values of people, customers and trust to deliver exceptional results and create value. Our governance structure and ethical policies are put in place to ensure that we bring long-term benefits to all of our stakeholders including our people, customers, vendors, investors and the communities in which we operate.

Leadership Structure and Board of Directors

Our current Board's structure includes a combined Chair and Chief Executive Officer, an independent Lead Director who was elected by the independent members of this Board, and four Committees (Nominating and Governance, Compensation, Audit, and Sustainability). PCA's Board comprises leaders who possess expertise in areas that are important to our business. They oversee the strategic planning and direction of the company. This oversight includes our ESG goals and priorities, human resources, environmental, health and safety, and the review of risks and opportunities facing the company. The Board delegates the day-to-day management of the company and the execution of strategic planning of the company's financial, environmental and social goals to the CEO and executive officers.

COMMITTEES

- Nominating and Governance Committee
- Compensation Committee
- Audit Committee
- Sustainability Committee

As required under New York Stock Exchange ("NYSE") rules and the committee charters, each of the Nominating and Governance, Compensation, and Audit committees consist solely of independent directors.[2,3,4] A director is deemed independent when the Board affirmatively determines that such director has no material relationship with PCA. In compliance with the NYSE listing standards, the Board and its committees also conduct an annual self-evaluation of its performance to which the Nominating and Governance Committee has oversight.

The Board and our executive officers meet at least four times each year to review the company's business matters, receive updates from each committee's chairperson and ensure management continues to deliver on their objectives.

Annual performance self-evaluation is conducted to assess effectiveness and ongoing compliance with our committees' charters and objectives. In 2023, there were no changes to the composition of the Board.

LEARN MORE

To learn more about PCA's corporate governance structure and practices, we encourage you to visit the Corporate Governance and Financial Reporting sections of our website, and review the related documents and financial reports.

2 303A.04 Nominating/Corporate Governance Committee | NYSE
3 303A.05 Compensation Committee | NYSE
4 303A.07 Audit Committee Additional Requirements | NYSE

Employee Concerns Hotline and Reporting Process

There are several avenues for PCA employees to escalate ethical concerns including their direct supervisor, other supervisors and managers at their location, Human Resources or our Legal department. Concerns can also be submitted anonymously through PCA's Employee Concerns Hotline via secure website or by phone. PCA's Employee Concerns Hotline is an established toll-free help line in which employees may communicate confidentially and anonymously any concerns related to PCA's business principles and policies, or suspected violations. This toll-free help line is monitored by non-PCA personnel 24 hours a day, 7 days a week, and all calls are communicated to PCA's corporate counsel. Employees are also able to report a concern anonymously on our ethics website, as employees' names and IP address are not recorded by the system. Contact information for Our Employee Concerns Hotline is conspicuously posted in all PCA facilities.

PCA's corporate counsel maintains a log of all complaints, tracking their receipt, investigation and resolution, and prepares periodic summary reports for the Board's Audit Committee. PCA ensures that employees are not discharged, demoted, suspended, threatened, harassed or discriminated against in any way for taking lawful actions related to the good faith reporting of complaints, including accounting matters, as outlined in Section 806 of the Sarbanes-Oxley Act of 2002.

The Board is notified and updated on any critical concerns that carry a substantial risk to bring negative impacts to the company including, but not limited to, reputation, compliance and regulation, employee safety, and cyber and information security.

Corporate Integrity and Compliance

We have implemented several codes, guidelines and practices to not only help us in maintaining the high ethical standards that we set ourselves, but to comply with global statutory obligations and requirements. Our goal is to ensure, embed and maintain robust compliance and integrity practices throughout the company.

Code of Ethics and Business Conduct

Our *Code of Ethics and Business Conduct* ("The Code") provides a set of ethical principles and policies for PCA employees and our extended business relationships to follow. All consultants, agents, suppliers and contractors serve as an extension of PCA. They are expected to follow the spirit of our Code, as well as any applicable contractual provisions, when working on behalf of PCA. The Code emphasizes our aim to create and maintain a work environment that is safe for everyone, where all feel respected regardless of their background or the opinions they hold.

Any alleged misconduct and violations of the Code, including conflicts of interest observed and reported, are investigated and reviewed on a case-by-case basis. The Board; our Senior Vice President, General Counsel and Corporate Secretary; and the Audit Committee receive regular updates on all reported incidents and actively engage with our senior leaders to review and assess the effectiveness and quality of our ethics and compliance program. PCA will take disciplinary and legal measures permitted in accordance with applicable law and its existing contracts if an alleged violation involves a third-party business relationship. PCA strictly forbids and does not tolerate retaliation of any kind. If retaliation is suspected to have taken place, disciplinary measures are taken. PCA assesses the effectiveness of the reporting and investigation process on an ongoing basis. The *Code of Ethics and Business Conduct* can be found in the Corporate Governance section of the PCA website.

LEARN MORE

To learn more about PCA's policies and guidelines, please visit the Corporate Governance section of the PCA website.

Compliance and Ethics Training

In 2023, we continued to provide training to our employees on topics important to reducing risk, such as cybersecurity. The following trainings are specific to social and governance topics:

Cybersecurity

As data fraud, theft and cyberattacks continue to rise in both frequency and severity, PCA is vigilant in defending against these threats. With malicious actors constantly evolving their tactics to access personal information and digital assets, PCA relies on ISO 27001 and other risk management frameworks to guide the implementation of robust security controls. These measures are designed to uphold the confidentiality, integrity and availability of PCA's resources and those of its customers. In 2023, PCA engaged a third-party auditing firm to conduct a cybersecurity maturity assessment based on the NIST Cybersecurity Framework (CSF). Through regular external and internal penetration testing, PCA endeavors to demonstrate security levels that meet or exceed industry standards among its manufacturing peers across all domains. PCA places paramount importance on safeguarding its resources and any customer data within its network, taking every reasonable measure to ensure the confidentiality, integrity and availability of this information.

All employees are required to undergo information security training. Since the launch of our cybersecurity training program in February 2019, thousands of employees have actively participated. Delivered in the form of short, engaging videos, this training covers cyber awareness, cybersecurity and cyber safety, providing essential knowledge to safeguard our digital assets and mitigate cyberattack risks. The curriculum includes topics such as phishing, data protection, physical security and handling sensitive information. Our training partner, Precipio, administers these sessions under the supervision of our Network Services team. In 2023, our employees completed 63,643 courses, totaling 3,182 hours.[5]

Ethics and Compliance

PCA holds ethics, integrity and lawful conduct as essential to the successful conduct of its business. To ensure that our high standards are upheld, we require salaried and supervisory employees to participate in and complete periodic online education through a third-party risk and compliance learning solutions provider on topics such as antitrust laws, protecting confidential information and intellectual property, conflicts of interest, financial integrity and fraud, insider trading, sexual harassment and employment law. We also conduct in-person training for maintaining a respectful workplace free from harassment, and other important topics, such as compliance with securities and antitrust laws. Our ethics and compliance training efforts are overseen by PCA's Compliance Training Committee. This committee meets quarterly, and its primary objectives include determining and creating trainings that fit the PCA culture, ensuring that we comply with the various federal and state-specific requirements, presenting topics in a practical and easy to understand format, and making certain everyone at PCA completes training on a timely basis. In 2023, 16,331 course sessions with a sum of 10,351 hours of ethics and compliance training were completed.

[5] Assuming three minutes per training video and test question.

PLANET

ENVIRONMENTAL PERFORMANCE

Climate Change

Emissions

Energy

Water and Effluents

Waste

PRODUCT STEWARDSHIP

Sustainable Forest Management

Sustainable Fiber Sourcing

Raw Materials

Due Diligence System and Risk Assessment

Biodiversity

Product Safety and Chemicals Management

End-of-Life Treatment

PCA has a demonstrated track record of environmental compliance excellence and a strong commitment to environmental stewardship. We have implemented a comprehensive environmental management system to ensure full compliance with all applicable laws and regulations at the federal, state and local levels. Our commitments and investments in environmental excellence provide assurance of our responsible operation and compliance to investors, employees, customers, vendors and the public. Through our business operations and leveraging the power of trees within our existing value chain, we aim to contribute and help transition to a low-carbon world.

Climate Change

At PCA, making our products and removing carbon dioxide (CO_2) from the atmosphere start the same way, with a tree. For over a century, PCA mills have manufactured products from wood grown in North American forests, predominantly located in the contiguous United States. During this period, the amount of forestland in the U.S. has remained consistent at about one-third of total land area.[6] Concurrently, tree growth rates in the eastern U.S. (the wood basket for seven of our eight mills) have increased by 30% to 50%.[7] Both metrics provide empirical evidence of a well-managed, sustainable system.

Our Goal

PCA understands that a sustainable system requires a symbiotic relationship between humans and the natural world. This means that companies provide benefits to people and the planet through their business activities, especially their products, including the methods used to extract and manage natural resources and to manufacture products. At end of life, the product should return value back to the system in some way.

Just like human-made technology that improves with each iteration, trees have undergone remarkable adaptations over a span of more than 300 million years. These adaptations make them incredibly resilient and capable of serving as a powerful biological technology. Trees possess the remarkable ability to absorb CO_2 using energy from the sun, making them nature's own CO_2 absorption tool. In this context, we refer to trees as a form of biological technology because they offer a natural solution for removing CO_2 from the atmosphere. Their ability to capture and store carbon is akin to a technological process, albeit one that has evolved over millions of years through the intricate workings of nature. By continuing to utilize the tremendous potential of trees already within our value chain, we can advance our work together with nature to address the challenges of climate change and achieve an even more sustainable future.

At PCA, an opportunity being explored is the capture and permanent storage of CO_2 currently being emitted, which can create exceptional value by reducing the concentration of planet-warming gases in Earth's atmosphere and without any additional strain to forests. Our goal is to permanently remove CO_2 from the atmosphere by working collaboratively with nature.

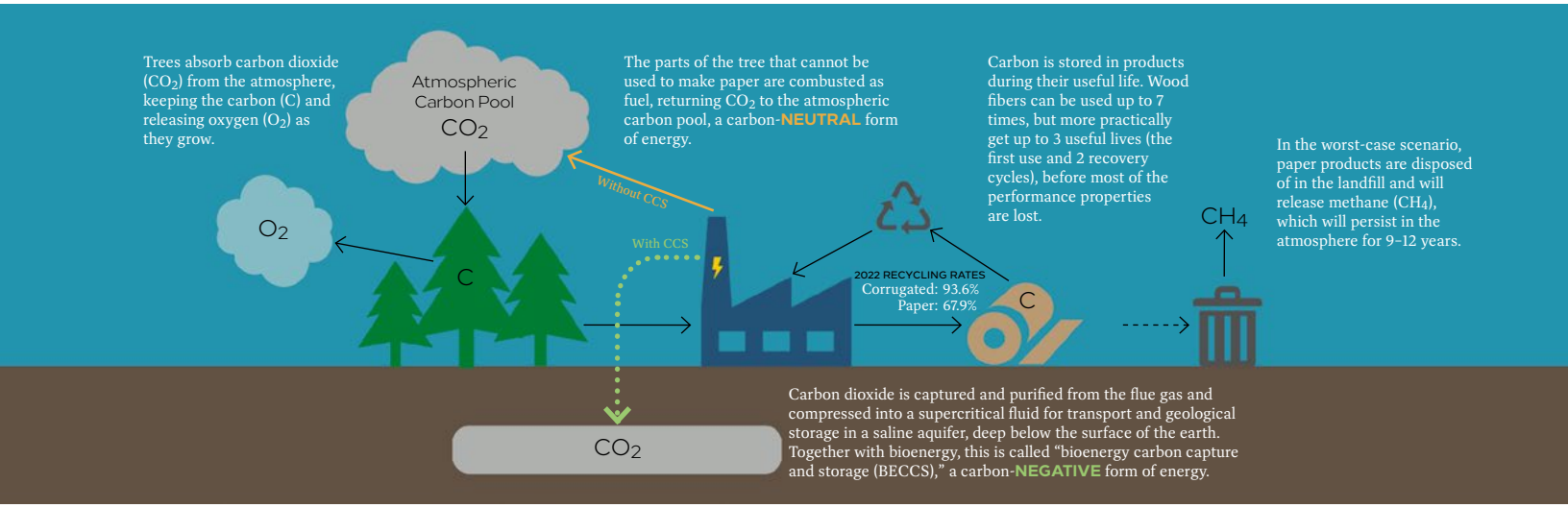
6 Forest Resources of the United States, 2017 (usda.gov)

7 Loehle C, Solarik K. 2022. Climate Change and Historical Forest Growth Changes in the US and Canada. NCASI Fact Sheet

Carbon Dioxide Removal

Carbon dioxide removal (CDR) is a fundamental aspect of PCA's net-zero strategy. Trees play a crucial role in this process by absorbing carbon dioxide (CO_2) and releasing oxygen (O_2) for the benefit of humans and other animals. When PCA purchases a tree, whether as roundwood or wood chips, our manufacturing process begins from a "carbon-negative" standpoint because the tree has removed carbon atoms from the atmosphere and stored these within its structure. At PCA mills, we utilize a combination of first-use (virgin) fiber and secondary (recycled) fiber to create our products. Generally, the higher the proportion of first-use fiber in our products, the greater the availability of renewable fuel to power our manufacturing processes.

This is because the biomass content in trees that cannot be used for paper production serves as a renewable fuel source known as biogenic fuel. Currently, when biomass is combusted for renewable energy at our mills, the resulting CO_2 emissions are released back into the atmosphere, rendering the energy production carbon neutral. However, if we were to capture and permanently store these biogenic CO_2 emissions in geological reservoirs, such as saline aquifers, the outcome would be carbon-negative energy. Our goal is to achieve carbon negativity through the implementation of existing and emerging carbon capture and storage (CCS) technologies. By doing so, we strive to achieve verifiable and permanent CDR as an inherent outcome of our pulping and papermaking operations.



Saline Aquifers

Saline aquifers are geological formations of porous rocks that contain salt water. Saline aquifers are typically greater than 1,000 meters (3,281 feet) below the surface of the earth. Saline water is often too expensive to desalinate for drinking water, and its use is limited to applications such as cooling power plants or for mining purposes.[8] The first carbon storage project in a saline aquifer occurred in 1996, where one million metric tons of CO_2 per year continue to be captured and stored below the North Sea, west of Norway. The Massachusetts Institute of Technology found there is enough capacity in the United States' saline aquifers to store all the CO_2 emitted from the country's coal-fired power plants for the last one hundred years.[9] To date,

8 Is saline water used for anything? | U.S. Geological Survey (usgs.gov)

9 Lifetime of carbon capture and storage as a climate-change mitigation technology | PNAS

storage in saline aquifers has been found to be a safe and secure method for permanent carbon dioxide removal. PCA's four southern U.S. mills—Counce, Tennessee; DeRidder, Louisiana; Jackson, Alabama; and Valdosta, Georgia—emitted a combined 4.5 million metric tons of biogenic CO_2 in our 2021 baseline year and are located on or near saline aquifers that can be used to permanently store carbon dioxide. This presents an opportunity to remove carbon dioxide from the atmosphere with emerging and existing CCS technologies over and above what we currently achieve with our existing fiber supply chain.

Climate Goal and Targets

In 2022, we published our climate goal to become a net-zero emissions company by 2050, with 2030, 2040, and 2050 climate targets from a 2021 baseline (using a market-based inventory).[10] Based upon our current assumptions, these targets include using trees and post-combustion carbon capture technology to remove 1.75 million metric tons of CO_2 from the atmosphere per year by the year 2040 and an additional 2.35 million metric tons per year by the year 2050 for a total of 4.1 million metric tons. Achieving our 2050 carbon removal target with carbon capture technology would provide a 68% reduction across scopes 1, 2 and 3 emissions from our 2021 baseline using a market-based inventory, and 75% using a location-based inventory.

2030	2040	2050
35% reduction in scopes 1 and 2 emissions.*	**60%** reduction in scopes 1, 2 and 3 emissions.	**Net-Zero** carbon emissions for scopes 1, 2 and 3.
10% reduction in fossil fuel consumption.	**20%** reduction in fossil fuel consumption.	—
Support **800,000** MWh/year of carbon-pollution-free electricity generation.	Capture and permanently store **1.75** million metric tons of biogenic CO_2 per year.	Capture and permanently store **4.1** million metric tons of biogenic CO_2 per year.

*Includes 19% of temporary reductions from energy attribute certificates (EACs)

Our Carbon Reduction Strategy

We are continuously working to reduce our scopes 1 and 2 emissions by proven methods, including enhancing circular economy principles we currently employ in our production processes to recover and reuse chemicals, water and fiber. Since 2015, PCA moved from coal combustion to natural gas to power our mills. This "bridge fuel" has helped PCA reduce its carbon emissions significantly as the burning of natural gas produces 50% less CO_2 than coal per unit of energy.[11] Our industry continues to work collaboratively to improve recycling rates of our products, which provides scope 3 reductions as more old corrugated containers (OCC) and mixed paper are diverted from landfills.

[10] PCA is not including scope 3 in our 2030 target because our inventory relies heavily on life cycle assessments (LCA) that are not regularly updated. We will continue using this method until meaningful progress has been made in transitioning the U.S. electrical grid and transportation system to carbon-pollution-free technologies, or we are compelled to do so by regulators.

[11] U.S. Energy Information Administration FAQs

PCA's carbon reduction strategy is **MORE**.

- **M**aximize resource efficiency.
- **O**ptimize carbon benefits of sustainable forestry.
- **R**educe waste to landfills.
- **E**nergize our operations with clean power.

Operational Efficiency (Scope 1)

PCA employs a substantial number of engineers and professionals with a primary focus to maximize efficiency of unit operations. Activities to increase efficiency of our operations, inclusive of strategic capital projects, are planned to contribute more than a 20% reduction by 2050, considering all scopes of emissions, from our 2021 baseline. This contributes to both our short-term and long-term strategy.

Renewable Electricity (Scope 2)

PCA's 2030 target is established on a market-based inventory approach for scope 2 emissions. This choice is driven by our intention to utilize energy attribute certificates (EACs) as a temporary measure to reduce emissions until we can implement carbon capture plants or other emerging technologies. As part of our 2030 target, we plan to procure 800,000 MWh/year of EACs, specifically supporting carbon-pollution-free electricity generation. Our preference is to prioritize renewable energy projects that generate renewable energy certificates (RECs). Additionally, we are open to considering nuclear energy projects that produce emissions-free energy certificates (EFECs). These projects are primarily sought within the United States, and we are also open to exploring opportunities in Canada, given that some of PCA's operations are situated near the U.S.–Canada border. This carbon-pollution-free electricity target is expected to result in a 19% reduction in carbon dioxide equivalent (CO_2e) of scopes 1 and 2 from a 2021 baseline, accounting for more than half of the necessary reductions to meet our 2030 target of a 35% reduction.

Most **SCOPE 3** Emission Reductions in our Value Chain Require **SOCIETAL PROGRESS** to Low-Carbon Technologies.

Supply Chain (Scope 3)

Most scope 3 emission reductions in our value chain require societal progress to low-carbon technologies. We estimate 70% of our scope 3 emissions are tied to purchased goods, transportation and energy-related transmission and distribution losses, 20% from fugitive emissions (methane) primarily related to end-of-life treatment of sold products, and the remaining 10% from agricultural land use related to plant-based starch used to manufacture our products. In setting our 2050 net-zero target, we assumed a 43.5% reduction in scope 3 emissions by the year 2050 (which is approximately 1.5% each year from our 2021 baseline), or 18% of all three scopes from our 2021 baseline. Our scope 3 reduction target is largely premised on societal progress, influenced by government policies to achieve a greener U.S. electrical grid,[12] and the acceleration and adoption of low-carbon transportation vehicles.

Land Use and Land Change

Outside of plant-based starch, land use in PCA's value chain primarily comprises working forests in the United States, which are some of the most productive forests in the world. A forest that is productive at growing wood is also productive at sequestering CO_2. Forests and the products made from them offset approximately 13% of all annual U.S. carbon dioxide emissions each year.[13] We source from a mix of mostly semi-natural forests, which are managed stands of native species that regenerate naturally, and plantations of native pine trees that are mechanically or hand planted.

[12] U.S. renewable electricity generation capacity has been on the rise and has become the second major energy source generated after natural gas | Electricity generation, capacity, and sales in the United States | U.S. Energy Information Administration (eia.gov)

[13] Marketplace Sustainability | AF&PA (afandpa.org)

Pine plantations in the U.S. South are a considerable success story. From the end of the Civil War through World War II, much of the agricultural land used to grow tobacco and cotton was abandoned due to declining soil productivity. During the early 1950s, degraded agricultural lands were reclaimed for pine plantations. From 1952 to 1999 the amount of pine plantations increased from 1.8 million to 32 million acres with an increase of timber volume exceeding 3,500%.[14]

Today there over 37 million acres of pine plantations in the southeastern United States.[15] There are approximately 765 million acres of forestland in the United States.[16] According to the recently published drafts of the Greenhouse Gas Protocol Land Sector and Removals Guidance, forests are the best-case land use scenario for carbon sequestration.[17]

Our Progress

We have spent this past year learning, exploring, evaluating, and planning the next phase of our climate strategy. We have taken a closer look at various avenues, and both current and upcoming carbon-pollution-free opportunities to devise efficient and strategically sound pathways to reaching our carbon targets. Led by PCA's Carbon Neutrality team, further due diligence was conducted throughout 2023 in selecting the appropriate CCS technology and storage partners. We remain on track with our initial planning in 2022, with the remaining stages of project development taking approximately four years to complete, making 2028 the earliest we could have a commercial scale carbon capture plant operational.

We believe we are in a strong position to achieve net-zero carbon emissions by 2050 due to sourcing of our primary raw material from carbon sinks,[18] existing use of renewable biogenic energy from trees, potential to capture and permanently store biogenic CO_2, the capabilities of our engineering and professional staff focused on carbon neutrality, our proven track record of effective capital investment,[19] and the fact that we make products from renewable and sustainable materials that are recycled at a high rate.[20]

Risks and Uncertainties

Our carbon reduction goals and our plans to achieve those goals discussed above were developed based upon what we believe to be reasonable current assumptions, which in many cases involve assumptions regarding future operations, emergences in future technologies, the tax and regulatory environments involving carbon emissions, as well as other key factors involving future events. Our carbon reduction goals and plans to achieve those goals are forward-looking statements. These statements reflect our current views with respect to future events and are subject to risks and uncertainties.

14 Fox TR, Jokela EJ, Allen HL. 2004. The Evolution of Pine Plantation Silviculture In The Southern United States. In: Gen. Tech. Rep. SRS 75. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. Chapter 8. p. 63-82.

15 CFR News Story | College of Forest Resources | Mississippi State University (msstate.edu)

16 U.S. Forest Ownership and Management | Congressional Research Service

17 Land-Sector-and-Removals-Guidance-Pilot-Testing-and-Review-Draft-Part-1.pdf (ghgprotocol.org), p. 104

18 Carbon sinks are anything that absorbs more carbon from the atmosphere than it releases.

19 2023 PCA Annual Report, Inside Cover

20 Boxes Remain a Recycling Success Story | American Forest & Paper Association (afandpa.org), Paper Recycling Success | Fibre Box Association (fibrebox.org)

There are important factors that could cause actual results to differ materially from those in forward-looking statements, many of which are beyond our control. These factors, risks and uncertainties include, without limitation, the following:

- Our nearer term goals and plans rely on EACs to temporarily reduce scope 2 carbon emissions. The cost and availability of EACs and the availability of feasible opportunities to purchase EACs specifically supporting development of carbon-pollution-free electricity generation are subject to uncertainty based upon market conditions, overall supply and demand for EACs, and other factors beyond our control.
- The emergence of mandatory climate reporting standards and the continued development of voluntary standards and frameworks may result in definitional or other changes that alter how our greenhouse gas emissions (both biogenic and anthropogenic) are calculated and reported both historically and prospectively. In addition, continued development and emergence of standards and frameworks may change how or if EACs, carbon offsets and carbon dioxide removal credits may be applied to net or offset emissions from other sources and the scope in which these are reported. There is considerable uncertainty in any regulatory or standard framework for carbon emissions reduction in the United States and the definitions, rules, permits and requirements under such frameworks.
- Our longer-term plans involve the continued emergence and development of carbon capture utilization and storage technologies that can feasibly be incorporated into multiple operations of our size and scale. We are currently assessing these technologies and the means to implement these technologies. Advances in technology are inherently uncertain, and these technologies may not emerge in the time frame we currently expect nor reach commercialization. We may not be able to incorporate these technologies into our operations in an efficient or cost-effective manner.
- We believe that continued tax and regulatory incentives and support are necessary to advance carbon reduction technologies and meaningfully influence our investment decisions in order to achieve our goals and plans. The future tax and regulatory environments are inherently uncertain.

Our actual performance on the achievement of our plans and goals could differ materially from what we have stated and we can give no assurances that any of the events anticipated by our plans and goals will actually occur. Our plans and goals are also subject to the risk and uncertainties presented by our operations, which are disclosed in our Annual Report on Form 10-K for the year ended December 31, 2023, under the caption “Risk Factors.”

Emissions

Greenhouse Gas Emissions

PCA reports on its greenhouse gas (GHG) emissions pursuant to the Greenhouse Gas Protocol (GHG Protocol). We utilize invoice data for electric power, natural gas, propane and solid waste disposal, in addition to other minor sources contributing to our footprint. Since 2017, PCA has been reporting to the CDP climate change questionnaire.[21] Today we track all direct (scope 1), indirect (scope 2) and applicable other indirect (scope 3) emissions at our mills and packaging plants for which we have operational control.

We have selected 2021 as our base year as it was the most recent year reported when we began work to establish our climate goals.

All data produced in this report has been internally verified, considered valid and accurate to the best of our knowledge.

SCOPE 1	SCOPE 2	SCOPE 3	BIOGENIC CO_2
Our scope 1 emissions include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). It includes natural gas that is consumed by our mills and corrugating plants, PCA-owned landfills, process chemistry and other fossil fuels such as propane for lift trucks and other supplemental fuels. The use of biomass fuels results in net emissions of CH_4 and N_2O to the atmosphere, therefore, we include this CH_4 and N_2O as part of our scope 1 emissions.	Our scope 2 emissions include greenhouse gas emissions from our purchased electricity and steam.*	Our scope 3 emissions include end-of-life treatment of sold products such as product recycling, products sent to landfill, and energy recovery; purchased goods and services such as wood, chemicals, and corrugated sheets; upstream transportation (wood) and downstream transportation (paper and corrugated products). We also report on other scope 3 categories that contribute to our inventory to a lesser extent, like capital equipment put into service, employee commuting and business travel, and waste generated in operations sent to a municipal landfill.	Biogenic CO_2 emissions result from the combustion of biomass fuels such as black liquor solids, bark and other wood waste, as well as chemical recovery, to a lesser extent.

*Steam is only purchased by our Filer City mill.

Greenhouse Gas Emissions Inventory and Accounting

Today we track all direct (scope 1),[22] indirect (scope 2) and the vast majority of applicable other indirect (scope 3) emissions at our mills and packaging plants for which we have operational control.[23]

21 2017 climate change questionnaire, reported in 2018.

22 Greenhouse gas emissions from company-owned landfills are reported on a one-year lag due to the complex nature of the calculation and the length of time required for data aggregation necessary for computation. Methane gas collection systems are in place at PCA-owned landfills. However, there is limited methane release from PCA landfills since the majority of landfill waste is inert ash from biomass use in the process of energy generation. This ash releases limited emissions when landfilled due to most of the emissions being released upon combustion. As such, EPA emission factors likely result in higher reported emissions than are actually released.

23 In 2018, we began tracking emissions for our regional, in-house trucking fleet, our corporate headquarters and our technical center. In 2020 we began tracking emissions for our supply services and fulfillment centers.

2023 FOSSIL CO_2e EMISSIONS *5.55 million metric tons CO_2e (market-based)*

Fossil by Scope:	31%	28%	41%
	SCOPE 1	SCOPE 2 (MARKET-BASED)	SCOPE 3

Fossil by Category:*	61%	18%	9%	9%	3%
	ENERGY	WASTE	MATERIALS	MOBILE	OTHER
	• Scope 1, Stationary combustion • Scope 2 • Scope 3, Cat. 3	• Scope 1, Company-owned landfills • Scope 3, Cat. 5, 12	• Scope 3, Cat. 1	• Scope 1, Mobile equipment • Scope 3, Cat. 4, 6, 7, 9	• Scope 1, Process emissions • Scope 3, Cat. 2

* Scope 3, Cat. 8, 10, 11, 13, 14 & 15 are not applicable for PCA. For more information about our scope 3 emissions, please see the Appendix.

GHG EMISSIONS, DIRECT, INDIRECT, OTHER INDIRECT *(million metric tons CO_2e)*

	2019	2020	BASELINE 2021	2022	2023
Scope 1	1.91	1.77	1.95	1.81	**1.72**
Scope 2 (location-based)	1.20	1.10	1.06	1.07	**1.16**
Scope 2 (market-based)	-	1.38	1.62	1.43	**1.54**
Scope 3	2.47	2.30	2.48	2.43	**2.29**
TOTAL (LOCATION-BASED)	**5.58**	**5.17**	**5.49**	**5.31**	**5.17**
TOTAL (MARKET-BASED)	-	**5.45**	**6.05**	**5.67**	**5.55**
Biogenic CO_2	6.40	6.16	6.32	6.28	**6.32**

Note: In 2023, 124,007 MWh of Emissions-Free Energy Certificates (EFECs) were retired on PCA's behalf for a temporary reduction in GHG emissions of 47,582 metric tons of CO_2e.

GHG EMISSIONS INTENSITIES

NUMERATOR (METRIC TONS CO_2e)	PER	2020	2021	2022	2023
Fossil Scopes 1 + 2 (market-based)	Employee	205	235	215	**219**
	$ Revenue	0.00047	0.00046	0.00038	**0.00042**
	Ton of Paper	0.62	0.65	0.64	**0.65**
Fossil Scopes 1 + 2 (market-based) + 3	Employee	356	398	376	**372**
	$ Revenue	0.00081	0.00078	0.00067	**0.00071**
	Ton of Paper	1.08	1.11	1.12	**1.11**

Air Emissions

We calculated nitrogen oxides (NO_x), sulfur dioxide (SO_2) and Particulate Matter 10 (PM_{10}) based on emission factors derived from stack testing and/or from our continuous emission monitoring systems (CEMS). These factors are used to calculate our emissions based on the type and volume of fuel we combust and the efficiency of our control equipment. Due to our increased use of natural gas rather than coal, our power boiler SO_2 emissions have decreased by more than 99% in the past decade.

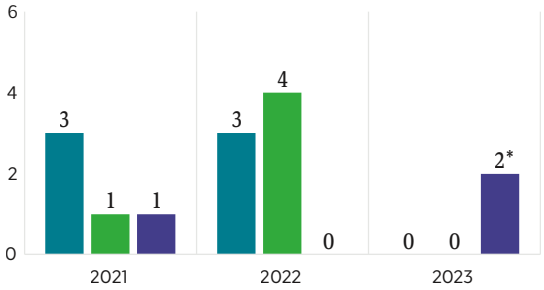
AIR EMISSIONS *Mills (thousand metric tons)*

	2019	2020	2021	2022	2023
Nitrogen Oxides (NO_x)	6.6	6.0	6.4	6.0	**5.7**
Sulphur Dioxide (SO_2)	1.5	2.1	2.4	2.1	**1.0**
Particulate Matter 10 (PM_{10})	1.6	1.0	1.1	1.1	**1.0**

Nitrogen oxides (NO_x), sulfur dioxide (SO_2) and particulate matter (PM) are the most relevant air emissions from PCA's operations. Since our switch from coal to natural gas in 2015 to power PCA mills, we have reduced our emissions significantly when it comes to PM, NO_x, CO_2 and SO_2, because natural gas burns cleaner than coal and yields zero ash.

Most of our PM and NO_x comes from our biomass energy. PCA also uses pollution control equipment to help reduce the amount of air emissions derived from biomass energy. Particulate matter (PM), sulfur dioxide (SO_2) and nitrogen oxides (NO_x) release are measured at each PCA mill in order to comply with applicable EPA emission limits and thereby meet the National Ambient Air Quality Standards (NAAQS).

PCA MILLS: 3-YEAR ENVIRONMENTAL PERFORMANCE



* The two Permit Exceedances in 2023 recorded were due to an erroneous discharge limit applied by the state. Correcting this error is underway.

Reportable Releases
NOVs–Notice of Violations
Permit Exceedances

Energy

In complement to our climate change targets, we are endlessly working with our energy, technical services, and engineering teams to find ways to reduce energy usage and replace our fossil fuel energy source with other types of energy that are cleaner and more sustainable.

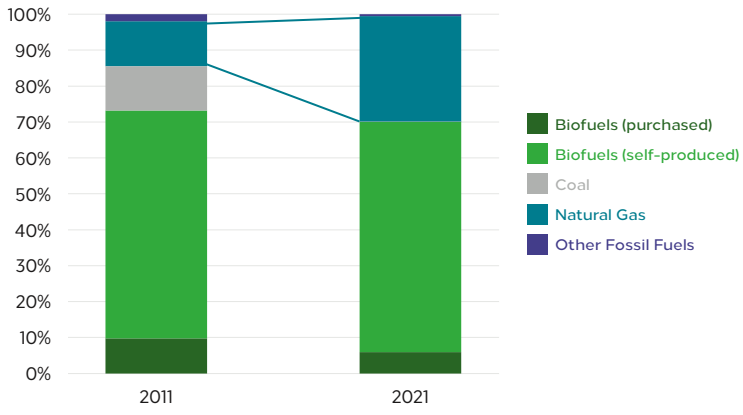
Energy Consumption and Reduction

Improving energy efficiency requires persistent effort. We have incorporated energy reduction efforts into our overall energy strategy by continuously looking for ways to improve efficiency and integrate new technology to reduce demand for energy. These efforts could include investing in newer equipment, retrofitting existing equipment, or using data and modeling to inform and streamline our energy usage.

Energy reduction starts with understanding our energy consumption, with 87% of PCA's fossil fuel consumption and 83% of our purchased electricity at our pulp and paper mills. In addition, PCA mills self-generate nearly half of the electricity they consume. Mill energy usage is tracked and compared with internal and external benchmarks on a routine basis. Energy benchmarks for individual unit processes within a mill are tracked and compared with historical usage and targets. Our Engineering and Process Technology team also leverages the use of energy modeling to discover energy-reduction opportunities. Each year, multiple opportunities are identified and executed. After new installations are complete, our energy modeling works to determine the optimum energy balance for the new installation and to quantify the benefit of the project.

MILL ENERGY MIX BY FUEL TYPE

Switching from coal to natural gas helped our mills avoid nearly 500,000 metric tons of CO_2e in our 2021 climate target baseline year, compared with 2011.



These energy efforts enable us to turn valuable insight into often low-cost measures that will help reduce energy consumption and eliminate energy waste. Real-time data is captured daily, and energy usage is discussed in daily production meetings where operators and managers use this information to optimize our manufacturing processes.

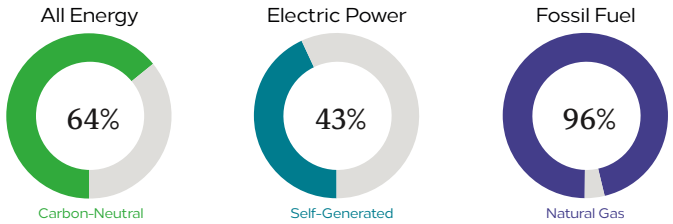
In addition, our maintenance teams conduct frequent, scheduled routine checks of our machinery for leaks, as leaks can be a source of wasted energy. For any equipment that operates below optimal standards, equipment is either replaced or retrofitted to reduce energy costs and usage.

ENERGY CONSUMPTION WITHIN AND OUTSIDE OF THE ORGANIZATION *(million GJ)*

	2019	2020	2021	2022	2023
Renewable Fuel	71.6	69.0	70.6	70.2	**70.7**
Non-Renewable Fuel	33.0	30.3	34.3	30.5	**30.1**
Electricity and Steam	9.4	9.5	10.3	9.9	**9.5**
Hydroelectricity	0.3	0.3	0.2	0.2	**0.2**
TOTAL	**114.3**	**109.1**	**115.4**	**110.8**	**110.5**

Notes: Lower energy consumption in 2020 was due to the idling of our Jackson mill from May–Sept 2020. In 2021, we changed our data collection methods resulting in minor changes to previously reported data for the years 2017–2020 for renewable fuel, non-renewable fuel, and electricity and steam.

ENERGY PERFORMANCE METRICS *all locations, 2023*



Energy Efficiency

Energy Efficiency in Our Mills

We increase energy efficiency in our mills by optimizing utilities production, which enables us to use the energy that we consume more efficiently. We do this by researching different energy generation methods and applying relevant techniques and methods to our production processes.

In the last few years, we have made various investments that have allowed us to see significant efficiency gains:

- At our International Falls mill, we increased our rate of electrical self-generation by 595,000 GJ of energy per year (the equivalent electrical consumption of 15,120 homes—nearly five times the number of homes in International Falls).
- At our Counce and Valdosta mills, we upgraded recovery boiler and turbine generator assets to increase the use of internally generated wood waste and black liquor as energy sources. This has increased our capacity to self-generate electricity in both mills, adding approximately 3 million GJ of biogenic, carbon-neutral energy to our portfolio. This helps to avoid scopes 1 and 2 emissions, equivalent to driving an average passenger vehicle nearly1.5 billion miles.
- At our Filer City mill, we installed a bubbling fluidized bed boiler to combust wood waste (previously shipped off site for energy recovery) and other fuel types. This added another 888,000 GJ of biogenic, carbon-neutral energy to our portfolio. Ten percent of the boiler's fuel supply also comes from used passenger vehicle tires that might otherwise be landfilled. When operating at capacity, for every full year of operation, over 790,000 tires are converted into recovered energy. Laid end to end, that's roughly enough tires to reach from Chicago to St. Louis.

Currently, almost all our mills utilize Combined Heat Power (CHP) processes wherein high-pressure steam is routed to steam turbines to generate electricity on site. This electricity is then used for our pulping and papermaking processes. Two of our mills, Tomahawk, Wisconsin, and International Falls, Minnesota, also self-produce and utilize hydroelectricity. Furthermore, heated water is reused more than 10 times, on average,[24] in order to conserve the energy used to heat the water.

The energy used to heat water is also considered when recycling water through the papermaking process. Once water is withdrawn from its source and heated to be used in the pulping and papermaking process, it would be wasteful to release that heated water after one use. Rather than wasting energy to reheat water, the water is reused multiple times throughout the entire production process. The water is then treated and returned to the environment. To learn more about our water recycling and reuse, see the Water and Effluents section of this report.

Alternative and Renewable Energy

We believe that a key part of carbon reduction is the sourcing and utilization of alternative and renewable energy. As such, PCA has invested in increasing our uptake in biofuels (both purchased and self-produced) and natural gas. Switching from coal to natural gas helps our mills avoid around 500,000 metric tons of CO_2e per year of scope 1 emissions.

For more than a decade, PCA has been increasing its capacity for biogenic fuel types such as wood waste and black liquor solids. PCA continuously strives to make incremental improvements and makes step change improvements when new technologies are viable and supported by economic conditions necessary for successful deployment. This has allowed us to decrease the usage of and dependence on fossil fuels and reduce our emissions of anthropogenic carbon. Due to the nature of our business, the most readily available form of renewable energy is wood waste (bark) and black liquor solids—byproducts of our manufacturing process. However, our Carbon Neutrality team also explores opportunities for non-fuel-based forms of renewable energy including solar and wind. As of December 31, 2023, we have yet to identify opportunities for on-site solar or wind generation that are economically viable, but we continue to evaluate opportunities in this dynamic market.

Bringing Community Benefits of Mill Energy Usage

PCA mills provide several benefits to the communities where we operate, including well-paying jobs and substantial tax payments. Additionally, our International Falls mill boasts a unique benefit pertaining to natural gas. As a large consumer of natural gas, the International Falls mill pays a substantial amount of the utility's total energy cost, allowing for lower operating cost of the natural gas pipeline. As the pipeline provides service for the mill as well as the surrounding community, this results in lower natural gas costs for the residents and businesses surrounding our mill.

[24] Water Reuse & Recycle | NCASI

Water and Effluents

Pulp and paper manufacturing is a water-intensive process. As one of the largest pulp and paper manufacturing companies in North America, PCA depends greatly on a consistent supply of freshwater to produce products for our customers. This is why our mills are located in water-rich areas. We use either surface or ground water for our pulp and paper manufacturing processes.

Our Interactions With Water as a Shared, Natural Resource

Our water strategy impacts our business, the environment and our communities. In our manufacturing and production, the way we source and manage our water directly impacts our business continuity objectives, operating costs and the strength and quality of our products. All PCA mills are in water-rich areas, and water withdrawn by PCA mills does not have a measurable adverse impact on the local economy, people or the environment. Most of the water we use is treated and released back to the local watershed. Protocols and tests are in place to ensure that the water that we release is non-toxic, clean and safe for our communities.

Our trade association, the American Forest & Paper Association (AF&PA), and its members are in the process of developing industry-specific tools to help guide our water stewardship efforts. We will begin evaluating the usefulness of this resource when these become available, and support AF&PA's commitment to advance sustainable water management.

Our Approach to Water and Effluents

PCA views water stewardship as the use and management of water that is environmentally sustainable, economically sound and socially beneficial. Water stewardship efforts are a joint effort between our Corporate Environmental team and local environmental experts at each of our mills. Expert judgement and industry-related experience across our environmental experts are used to identify water-related impacts. Historical data is used to benchmark against current data to inform and discover the existence and severity of water-related impacts, alongside global water trends and local geographical developments. These assessments are done on an annual basis, using qualitative analysis and patterns revealed through the review of comparative quantitative data.

Corporate and local environmental staff are in regular communication, and once per year environmental managers from each of our eight mills and corporate environmental leaders convene for an "environmental roundtable" to highlight risks and opportunities pertaining to air emissions, effluents and waste.

Through our trade association American Forest & Paper Association (AF&PA), we engage with NGOs and other stakeholders as a part of the pulp and paper industry to discuss water-related impacts experienced in our industry and how we can work together to steward water as a shared resource. We also frequently engage with our customers through presentations given by our ESG and Corporate Sustainability team, in which topics such as corrugated recycling, energy and water are covered.

Water Risk Assessment and Due Diligence

In 2023, we used the World Resources Institute (WRI) Aqueduct 4.0 Water Risk Atlas to identify overall water risk across our eight mills and updated our findings from 2020.

MILL	LOCATION	MAJOR BASIN	MINOR BASIN	OVERALL WATER RISK	WATER STRESS	WATER DEPLETION
International Falls White Paper Mill	Minnesota	Saskatchewan – Nelson	Central Rainy	Low (0-1)	Low (<10%)	Low (<5%)
Filer City Containerboard Mill	Michigan	St. Lawrence	Manistee	Low (0-1)	Low (<10%)	Low (<5%)
Valdosta Containerboard Mill	Georgia	Gulf of Mexico, North Atlantic Coast	Withlacoochee	Low – Medium (1-2)	Medium – High (20%-40%)	Low – Medium (5%-25%)
Jackson Containerboard Mill	Alabama	Gulf of Mexico, North Atlantic Coast	Lower Tombigbee	Low (0-1)	Low (<10%)	Low (<5%)
Counce Containerboard Mill	Tennessee	Mississippi – Missouri	Lower Tennessee / Beech	Low (0-1)	Low (<10%)	Low (<5%)
Tomahawk Containerboard Mill	Wisconsin	Mississippi – Missouri	Lake DuBay	Medium – High (2-3)	High (40%-80%)	Low – Medium (5%-25%)
DeRidder Containerboard Mill	Louisiana	Mississippi – Missouri	West Fork Calcasieu	Low – Medium (1-2)	Medium – High (20%-40%)	Low – Medium (5%-25%)
Wallula Containerboard Mill	Washington	Columbia and Northwestern United States	Middle Columbia / Lake Wallula	Low (0-1)	Low (<10%)	Low (<5%)

Overall water risk is measured by aggregating selected indicators for the given area in water quantity, quality, and regulatory and reputational risk categories. A higher water risk value indicates higher overall water risk. Baseline water stress measures the ratio of total water demand (consumptive plus non-consumptive withdrawal) to available renewable surface and groundwater supplies in the area. A higher water stress value indicates more competition among users of water sources in the area and does not signal any relationship between the demand and supply of water in the given area. While our Tomahawk mill water risk assessment indicated high baseline water stress, it is not indicative of ambient conditions nor our actual experience. Baseline water depletion measures the ratio of total water consumption (consumptive withdrawal) to available renewable water supplies. A higher water depletion value indicates larger impact on the local water supply and decreased water availability for downstream users.

Water Reduction and Water Conservation

We place a great emphasis on water reuse and recycling in our mills. Whenever possible, water used in our manufacturing process is reused until the water is no longer suitable for use. Since 2004, we have put in place a water conservation plan at our Valdosta, Georgia, containerboard mill. The conservation plan is in accordance with the Georgia Environmental Protection Division's Water Conservation Rules, and it includes the recycling, reclamation and reduction of water use. In our other mills, continuous water reduction and water conservation topics and planning are discussed during our monthly production and planning reviews.

In 2021, we designated carbon neutrality leaders at each of our pulp and paper mills to identify projects that have the potential to reduce carbon emissions and water use. These leaders were able to identify five significant water reduction projects across our eight mills. Implementation of these projects resulted in a 1.1% reduction in water withdrawal intensity compared with our goal of 6%. This demonstrates the challenge of achieving further reductions when our current water management practices are already efficient.

We quantify water recycling using the National Council for Air and Stream Improvement (NCASI) Water Recycle Tool,[25] and we determined our average water recycle ratio to be 10.9 in 2023.

Stormwater Management Initiative

The majority of PCA packaging plants are subject to state stormwater permit programs. A stormwater permit requires a detailed stormwater pollution prevention plan (SWPPP), along with periodic inspections and stormwater sampling/monitoring, reports to state agencies, annual fees and annual training. The PCA Corporate Environmental team established a goal in 2016 for the packaging plants to pursue stormwater No Exposure Certification (NEC) offered by various state programs, building on the previously attained and audited Good Manufacturing Practices (GMPs) achieved over the prior decade. Further improvements include storing all oil and chemicals indoors and reducing pollutants in stormwater discharges. Based on internal evaluations, the PCA Environmental team visits each PCA plant once every three to five years to ensure that all SWPPPs are in place and followed correctly.

PCA has invested significant time, engineering resources and capital dollars where necessary to help plants attain this goal where feasible. Since 2016, the number of PCA facilities achieving NEC status has more than doubled. Currently, 49 box plants have achieved rigorous management standards and thus achieved NEC coverage.

As a best management practice, NEC plants conduct thorough monthly inspections with a site-specific checklist and annual NEC training. PCA University also offers environmental management courses as well as a Stormwater NEC that includes a "Train-the-Trainer" segment. The success of the program reflects dedication to environmental excellence by PCA's plant and corporate personnel, as well as improved environmental performance, reduced compliance costs and reduced risk of spills at PCA packaging plants.

25 Water Reuse & Recycle | NCASI

Water Withdrawal, Consumption and Discharge

We use either surface or ground water for our pulp and paper manufacturing processes, depending on the location of the mill. Ground water is withdrawn at our DeRidder and Valdosta mills, while surface water is withdrawn at the remaining six PCA mills. Since mills "borrow" water from the environment, the only real water loss occurs from evaporation.[26] Overall water loss from evaporation is 346 gallons per ton of manufactured paper. PCA does not withdraw water from areas where the availability, quantity or accessibility of water is of concern. All PCA mills are in water-rich areas. PCA reports daily water use and release to each state where we operate mills via monthly discharge monitoring reports.

WATER WITHDRAWAL BY SOURCE *(in billion liters)*

SOURCE	2019	2020	2021	2022	2023
TOTAL	**273.9**	**270.8**	**274.9**	**261.2**	**256.3**
Surface Water	72%	72%	71%	71%	**71%**
Ground Water	27%	27%	28%	29%	**28%**
Municipal Water	1%	1%	1%	1%	**1%**

Data points may not add to 100% due to rounding.

As the temperature of a body of water can significantly impact life under water, water temperature is monitored when discharging water back into the environment. However, the released water from mills does not substantively increase the overall water temperature of the receiving water.

Water is returned in two primary ways, depending on its use at the mill.[27] Non-contact cooling water (NCCW), used to cool energy turbines and lubrication systems, is returned without treatment. During the winter months, our northern mills route spent NCCW into the papermaking process to recover heat and thereby increase energy efficiency. Process wastewater is treated in on-site wastewater treatment plants prior to being discharged to a river or lake.

PLANNED WATER DISCHARGES *Mills (billion liters)*

SOURCE	2019	2020	2021	2022	2023
TOTAL	**271.9**	**275**	**271.2**	**247.4**	**255.5**
Process Wastewater	77%	76%	75%	74%	**77%**
Non-Contact Cooling Water (NCCW)	23%	24%	25%	26%	**23%**

At all PCA mills, treated wastewater is tested for biological oxygen demand (BOD) and total suspended solids (TSS), the two most common water discharge metrics used by the U.S. EPA to assess receiving water impacts. 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 verify each mill is operating within the

26 National Council for Air and Stream Improvement. (2018). Water Profile of the U.S. Forest Products Industry

27 Due to geographic location, International Falls operates a fully enclosed, UNOX system, (an anaerobic reactivated sludge system) for wastewater treatment. Wastewater treatment plant residuals from this system are subsequently dried and combusted as a biofuel. Valdosta and International Falls both draw municipal water (for sinks, bathrooms, etc.), which is segregated and treated by publicly owned treatment works (POTW).

permitted limits. When comparing composite results of actual discharge of all PCA mills to the allowed (i.e., aquatic resource protective) discharge limit set by the EPA, in 2023 PCA mills discharged 21.9% of allowable BOD and 20.8% of TSS.

WATER DISCHARGE QUALITY *Mills (lbs/ton of production)*

SOURCE	2019	2020	2021	2022	2023
Biological Oxygen Demand (BOD)	1.38	1.54	1.6	1.38	**1.29**
Total Suspended Solids (TSS)	2.42	2.37	2.38	2.45	**2.51**

Our protocol for testing and monitoring water discharge ensures that the profile of the receiving waterbody is not negatively affected.

Waste

PCA minimizes waste and diverts waste from landfills as much as possible. Our products support a circular bioeconomy and are a beacon for responsible consumption and resource conservation. We work to reduce operational waste by identifying beneficial reuses of waste and engaging with our vendors to develop innovative solutions. We also work to educate consumers about corrugated and paper recycling through advocacy programs we support through the Paper and Packaging Board and the American Forest & Paper Association.

Our Approach to Waste

We strive to reduce waste whenever possible, with a focus on minimizing the waste that we produce from our manufacturing activities through recycling or finding alternative usage for it. We are committed to increasing our recycling and reuse volume and decreasing our waste to landfill on an annual basis. To reduce our waste byproducts, we use the wood (bark) produced in our manufacturing process as a source of biofuel. We monitor methane release from PCA landfills per state and/or federal environmental regulations; however, methane released from PCA landfills is sparse since the majority of landfill waste is inert ash resulting from biomass combustion for energy generation.

Our Interactions With Waste

PCA's operations generate four primary types of waste: high-volume waste byproducts, such as ash from biomass fuel and residuals from wastewater treatment plants (WWTP) (commonly referred to as "sludge"); low-volume wastes, such as construction debris, packaging and tooling, product scrap and lunchroom waste; universal waste and hazardous waste. Virtually all production scrap is recycled, ash and wastewater treatment residuals are beneficially reused where we are able, and our universal and hazardous waste streams contribute a de minimis volume to our total waste generation. Our greatest opportunities to further reduce waste to landfill are in expanding beneficial reuse of biological waste streams. Packaging and tooling are estimated to comprise less than 1% of our operational waste by volume and receive a commensurate level of attention from our sustainability and environmental teams. Most landfilled waste is generated by our pulp and paper mills. Manufacturing byproducts are diverted from landfill as much as possible through beneficial reuse, recycling or energy recovery, and the remaining waste goes to landfill.

Waste Profile

TYPE	VALUE CHAIN	CATEGORY
High-Volume Waste Byproducts		
Wood-fired boiler ash	Own manufacturing activities	Output
Residuals from wastewater treatment plants (WWTP) process	Own manufacturing activities	Output
Low-Volume Waste		
Construction debris, packaging and tooling, product scrap, lunchroom waste	Own manufacturing activities and downstream consumption	Output
Universal Waste		
Fluorescent bulbs, batteries, mercury-containing equipment, used electronics	Own manufacturing activities	Activity/Output
Hazardous Waste		
Crushed fluorescent bulbs, lead acid batteries, paint and paint-related materials, punctured aerosol cans	Own manufacturing activities	Activity/Output

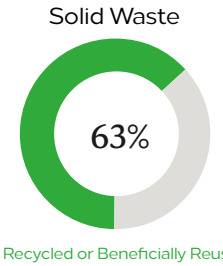
Depending on demand, WWTP residuals and wood-fired boiler ash are given or sold to farms as soil amendments or liming agents to achieve better overall moisture retention, to increase the organic matter content of topsoil and to elevate soil pH, all of which improve plant nutrient uptake. We have also received approval from the relevant authorities to use our combustion residuals for on-site road building, storing logs and buttressing the banks of the mill's wastewater treatment ponds at our Counce mill in Tennessee, which we do whenever possible. Our packaging plants recover the vast majority of their corrugated scrap for use at the mills as double-lined kraft (DLK), which is considered pre-consumer recycled material.

Seven of our eight mills own and operate private landfills. When organic materials decompose underground, methane gas is emitted. Methane gas venting systems are in place at several PCA-owned landfills to monitor landfill methane release. Methane release from PCA landfills is sparse since most of the landfill waste is inert ash resulting from biomass combustion for energy generation. Therefore, adverse impacts from methane-related landfill releases are negligible.

Universal waste and hazardous waste are collected by third-party hazardous waste management service providers who manage and find the most appropriate end-of-life treatment for each waste stream. These could include preparation for reuse, recycling, incineration or other recovery operations.

WASTE BY TYPE AND DISPOSAL METHOD *(thousand metric tons)*

SOURCE	2019	2020	2021	2022	2023
TOTAL	**808.8**	**834.1**	**977.7**	**856.3**	**802.2**
Recycled or Beneficially Reused	74%	70%	63%	73%	**63%**
Landfill	26%	30%	37%	27%	**37%**



CORRUGATED RECYCLING

In **2023**, PCA recycled approximately **320,000** metric tons of corrugated scrap.

That's enough to fill **OVER 40 MILES OF 50-FOOT RAIL BOXCARS**.

Product stewardship is the management of environmental impacts of materials and products through different stages in a company's value chain. PCA strives to contribute to maintaining a healthy, sustainable ecosystem of forestry by sourcing our timber from sustainable sources and connecting growers of timber to end markets, providing them with appropriate economic incentives to continue to grow trees that provide important ecosystem services during their lifecycle. PCA is committed to practicing and supporting sustainable forestry and responsible wood fiber procurement. PCA is a member of the American Forest & Paper Association (AF&PA). Together with AF&PA, we work with stakeholders in the pulp, paper, packaging and wood products manufacturing industry to advance sustainable forestry and wood products production.

Sustainable Forest Management

Sustainable forest management enables us to protect our forests while meeting the current needs of the society for forestry-related products and services without compromising the availability for the same resources to be provided for future generations. PCA is certified to various forestry and wood fiber sourcing standards, including the Sustainable Forestry Initiative® (SFI) Standard Requirements, the Forest Stewardship Council® (FSC®)[28] and the Programme for the Endorsement of Forest Certification (PEFC).[29] Each year, PCA undergoes a number of audits that examine our operations and the forests that PCA sources from, including compliance with the law, workers' rights and employment conditions, indigenous people's rights, environmental value and impacts, and benefits from the forest, just to name a few. Furthermore, PCA promotes and financially supports training programs for logging professionals as part of our commitment to sustainable forestry standards.

SOURCES OF WOOD FIBER *(thousand tons)*

	2019	2020	2021	2022	2023
First-Use Fiber (green tons)	15,021	13,933	13,986	13,731	**13,697**
PEFC Certified	26%	28%	27%	25%	**26%**
FSC Certified	4%	5%	5%	6%	**6%**
Controlled Material*	70%	67%	68%	69%	**68%**
Recycled Content	1,053	994	1,200	1,044	**1,026**
Market Pulp	6	18	53	2	**2**

Note: All data in thousands of air-dried short tons except for first-use fiber, reported as thousands of green short tons.

* All fiber procured by PCA mills meets the requirements for SFI Fiber Sourcing, PEFC Controlled Sources, and FSC Controlled Wood at minimum. Market pulp increased in 2020 and 2021 at both our International Falls and Jackson mills due to the conversion of our Jackson mill from white paper to containerboard, and COVID-19-pandemic-related supply chain issues.

Our Impact

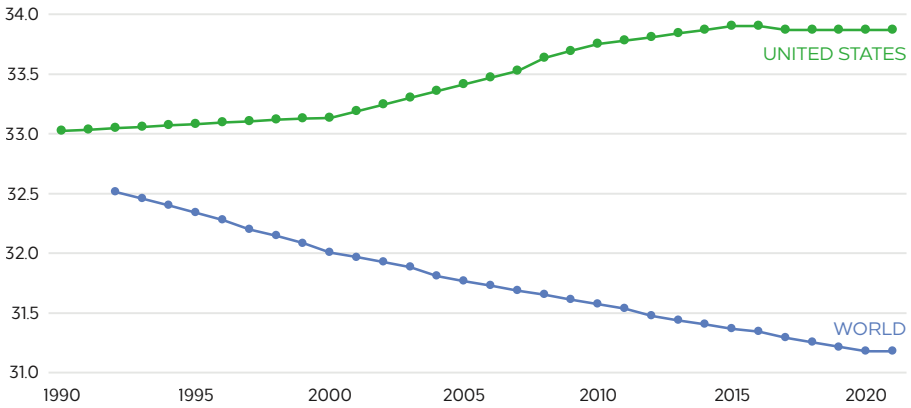
Preserving the "working forests" of private landowners is critical in supporting the economies of rural areas located around PCA mills. Without the fiber from timberland that goes into the paper product supply chain, there would be substantially fewer forestry and paper product-related careers. PCA mills play a crucial role in the

28 (FSC-C139165) (FSC-C020415)

29 (PEFC/29-31-222) (PEFC/31-29-09)

economies of these communities, as well as a major role in the culture and everyday life of residents. The American Forest & Paper Association (AF&PA) reports annually on the economic impacts of the forest and paper industry. In 2022 the AF&PA reported the forest industry produced $353.0 billion of manufacturing output and paid out $64.2 billion in total compensation to workers, as well as paid $4.2 billion in taxes. The forest and paper industry is also responsible for providing employment to 925,800 individuals.[30]

FOREST AREA *(percent of land area)*–UNITED STATES, WORLD



Source: World Bank

Zero Deforestation

Deforestation is the permanent removal of trees from a forest. Deforestation cannot be fully understood without first asking two key questions: Where are forests being lost and what activities are driving it?[31] Most deforestation occurs in the tropics, mainly due to expansion of agriculture such as beef (41%), and palm oil and soybean production (18%).[32] Deforestation is a significant issue in many parts of the world, but in the United States a different trend is observed. Between 1990 and 2020, the United States experienced consistent growth in its forest area, while the rest of the world collectively experienced a steady decline.

PCA sources the majority of first-use fiber from private landowners, which is consistent with the broader forest products industry. This is important because healthy end markets for timber are part of what keeps these lands forested. Without appropriate economic incentives such as timber grown for harvest, landowners may elect to convert to different land uses such as human food agriculture and livestock, which are the leading causes of deforestation globally.

Additionally, PCA takes steps to mitigate risks when sourcing from specified counties that have a higher risk of conversion due to urbanization. PCA is pleased to be a leader in the U.S. effort to strengthen America's forests.

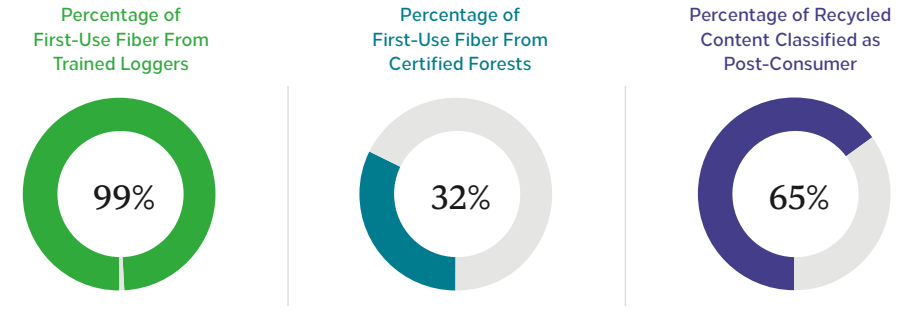
30 Our Economic Impact | AF&PA (afandpa.org)

31 Cutting down forests: what are the drivers of deforestation? | Our World Data (ourworldindata.org)

32 See footnote 31.

Sustainable Fiber Sourcing

Wood fiber is a renewable resource and the essential material used to make our products. PCA's mill system utilizes both first-use (virgin) fiber and recycled content. A sustainable fiber stream requires both first-use fiber and recycled content. PCA's primary role in maintaining this sustainable system is to supply first-use fiber, which is necessary to continue to make recovered fiber available and useful. First-use fiber is sourced almost exclusively from the United States, with less than 1% sourced from Canada (Ontario and Manitoba) by our International Falls white paper mill. We also source a small amount of market pulp for white paper. We procure wood from timberlands, both private and public, in the form of roundwood and in-field chips. We also procure residuals from sawmills in the form of chips and sawdust.



All PCA Mills

PCA-approved wood suppliers receive our policy through an annual correspondence. Prior to delivery, we make sure that suppliers are adequately insured, legally established businesses and are able to meet our terms. Once approved and a purchase order has been submitted, PCA woodlands managers and foresters verify the accuracy of the information. Our wood management system tracks and catalogs details of our wood and fiber sourcing, including county of origin. 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.[33]

Our packaging plants source containerboard (linerboard and corrugating medium) and corrugated sheets. The majority of our containerboard comes from PCA mills or trade partners. To ensure that our containerboard and sheets come from non-controversial sources, all suppliers are evaluated by our due diligence system and risk assessment. Any supplier that sells finished paper products to PCA for the corrugated production process is checked for a valid sustainable forestry certificate annually (FSC, SFI or PEFC, see below), in order to ensure the lowest possible risk of sourcing from controversial sources.

Fiber Sustainability Procurement Program

PCA has a fiber procurement program for all mills in compliance with the Sustainable Forestry Initiative® (SFI) Standard Requirements, the Forest Stewardship Council® (FSC®)[34] and the Programme for the Endorsement of Forest Certification

[33] Wood Fiber Addendum TC | PCA

[34] (FSC-C139165) (FSC-C020415)

(PEFC).[35] We also recognize the American Tree Farm System® (ATFS) individual and group certifications. Our program ensures compliance with the certification standards and follows all applicable laws and regulations. Approximately 9% of corrugated products were sold under certified chain of custody in 2023.

CERTIFIED PRODUCT SOLD *(thousand tons)*

	2019	2020	2021	2022	2023
CORRUGATED					
PEFC	174.9	206.3	305.6	313.1	**326.4**
WHITE PAPER					
FSC	116.5	72.2	66.8	37.9	**32.9**
PEFC	33.5	27.1	40.7	28.3	**18.8**
TOTAL	**324.9**	**305.6**	**413.1**	**379.3**	**378.1**

Note: Corrugated output is measured in thousand square feet (MSF) and was converted to tons for reporting this metric in a common unit of measure for both our packaging and paper segments.

35 (PEFC/29-31-222) (PEFC/31-29-09)

Raw Materials

At PCA, our Product Stewardship Program ensures that all raw materials used in producing, manufacturing, packaging, and transporting of paper and corrugated products comply with the applicable product regulations, including FDA and USDA, and with any certifications PCA has made regarding customer "green chemistry" requirements.

The Product Stewardship team works with our ESG and Corporate Sustainability team to evaluate how the raw materials we use impact the environment. Renewable materials used to produce and package PCA's primary products during the reporting period include wood fiber, wood fiber pulp and reclaimed wood fiber materials.

Aligned with the AF&PA's goal to advance a circular value chain, recycled containerboard capacity has increased by more than 60% in the United States since 2000. PCA has contributed to this AF&PA goal by adding capacity to process old corrugated containers (OCC) at our mills located in DeRidder, Louisiana; Wallula, Washington; and Jackson, Alabama. PCA consumed 440,000 additional tons of OCC in 2023 compared with 2013, a 143% increase.

HISTORY OF CERTIFICATION

2005

PCA white paper mills certified to SFI Fiber Sourcing Standard.*

2007

All of PCA's containerboard mills and corrugated packaging operations certified to SFI's Fiber Sourcing Standard, including Certified Sourcing.

PCA white paper mills certified to SFI, PEFC and FSC Chain of Custody, and FSC Controlled Wood Standards.*

2010

PCA's containerboard mills certified to SFI and PEFC Chain of Custody Standards.

2011

PCA's entire system of corrugated packaging plants certified to SFI and PEFC Chain of Custody Standards.

2018

PCA's containerboard mill system certified to FSC Chain of Custody and Controlled Wood Standards.

PCA's entire system of full-line plants certified to FSC Chain of Custody Standard.

2019

PCA containerboard mill system successfully audited to FSC U.S. Controlled Wood National Risk Assessment.

2020

PCA white paper mills successfully audited to FSC U.S. and Canada Controlled Wood National Risk Assessments.

*Prior to PCA acquisition of Boise, Inc. in October 2013.

Due Diligence System and Risk Assessment

PCA complies with the European Union Timber Regulation (EUTR) by providing relevant information to our customers that have regulatory obligations under EUTR.

PCA uses a due diligence system in conformance with the Sustainable Forestry Initiative®(SFI) and Programme for the Endorsement of Forest Certification (PEFC)[36] standards to avoid controversial sources in our supply chain. Each year we evaluate the contiguous United States and Canada for all of our operations that source wood fiber at both the origin (country) level and supply chain level, as well as the effectiveness of social laws. The U.S. and Canada both have effective social laws, relatively strong law enforcement and low levels of corruption. Additionally, all of our mills have successfully audited to the Forest Stewardship Council® (FSC®),[37] U.S. Controlled Wood National Risk Assessment (NRA) and FSC Canada Controlled Wood NRA.[38] These efforts help ensure that we avoid sourcing conflict timber or otherwise illegally harvested wood, genetically modified forest-based organisms, species that are included in Appendices I to III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and wood from land converted to other vegetation types.

In 2019, FSC released Controlled Wood National Risk Assessments for the U.S. and Canada.[39] For specified risks of High Conservation Values (HCV), the table below shows the applicable specified risks, the mitigation options and the partners we've selected for mills with impacted supply areas. The success of the HCV mitigation options in areas of specified risk are evaluated by FSC. The outcome of investing in support of these specified risks is that instead of avoiding the sourcing areas altogether and allowing them to deteriorate, we can play an active role in improving their health, which provides mutual benefits for many stakeholders.

HCV	CRITICAL BIODIVERSITY AREAS (CBA) OR SPECIES	MITIGATION OPTIONS	PARTNERS
Species Diversity	• Central Appalachian • Southern Appalachian • Florida panhandle • Central Florida • Klamath-Siskiyou • Dusky gopher frog	• Conservation initiatives • Education/outreach • Implementation of management activities	• American Forest Foundation • Forest Stewards Guild • The Longleaf Alliance • The Nature Conservancy
Rare Ecosystems	• Mesophytic cove sites • Native longleaf pine systems • Late successional bottomland hardwoods • Old growth	• Education/outreach • Planning • Staff/forester training	

36 (PEFC/29-31-222) (PEFC/31-29-09)

37 (FSC-C139165) (FSC-C020415)

38 Only applicable to our International Falls, Minnesota, mill.

39 The U.S. National Risk Assessment leveraged the International Union for Conservation of Nature (IUCN) Red List, NatureServe, USDA Forest Service and several state government resources, among others.

Biodiversity

We utilize NatureServe and state Natural Heritage websites to check for threatened or endangered species and ecosystem conservation priorities in combination with on-the-ground inspections prior to harvest activity. This enables us to ensure that biodiversity constraints are identified and that an effective plan of action is in place before, during and after forest management activity.

The forest certification programs we adhere to support the protection of biodiversity through voluntary and compulsory measures. For example, the SFI standard requires a trained Master Logger or Qualified Logging Professional (QLP) on site during harvest activities, and wood suppliers to remain up to date on continuing education requirements, including biodiversity protection. In 2023, 99% of the wood sourced directly from forestlands was delivered by QLPs.[40] We are dedicated to applying all mandatory and voluntary state best management practices (BMPs)[41] during harvest activity to protect a site's biodiversity and to preserve the quality of water and soil within the landscape. Each state has an SFI Implementation Committee (SIC) that works to promote sustainable forestry on all forestlands. The SICs have a robust procedure in handling concerns and complaints regarding site-specific forestry practices that appear inconsistent with the SFI standard principles and objectives, including the conservation of biodiversity.

[40] Although it is a requirement of voluntary standards, there are limited exceptions granted because we are not legally allowed to deter new loggers from gaining entry to markets. We require loggers to be enrolled in the next available QLP training course at a minimum.

[41] To view states' BMPs, please see the interactive map at https://www.stateforesters.org/bmps

Product Safety and Chemicals Management

Product responsibility and hazardous materials management are two of the identified material topics. PCA's product safety efforts are led by our Product Stewardship team. We have a robust product safety management process that ensures all raw materials used in producing, manufacturing, packaging and transporting paper and containerboard products comply with the applicable product regulations, including FDA and USDA, along with any certifications PCA has made regarding customer requirements. This process must be followed for all new chemicals/ingredients prior to use in PCA's manufacturing and packaging production processes.

The Product Stewardship team at PCA manages its chemicals according to the PCA Product Stewardship Process for Product and Raw Material Qualifications outlined in our Product Stewardship Program and ensures product safety through two levels of assurance. The first level takes place at the PCA mills where the majority of the chemical usage occurs in the pulping process. The second level is at the box plants, where the risk of chemical hazard is lower, due to the process mostly consisting of paper product assembly. These two levels of assurance ensure all PCA products comply with California Proposition 65, European Union REACH Substances of Very High Concern (SVHC) and Toxics in Packaging Clearinghouse model legislation (which are validated twice a year by a representative from the PCA Product Stewardship team) and the requirements for the FDA Federal Food, Drug and Cosmetic Act (FD&C Act).

All chemicals and raw materials must be pre-approved before use at any PCA facility to ensure the products do not pose adverse health and safety risks, and to determine if they contain regulated substances. It is expected that anyone who supplies materials to PCA that are essential in creating the final products supplied to PCA customers follow the same secure chemical safety standards (California Proposition 65, European Union REACH SVHC, FDA Federal FD&C Act). All vendors are first assessed to ensure they comply with PCA's product safety requirements before they are onboarded to conduct business with PCA.

Each year, PCA tests its paper products to ensure we are in conformance with the Coalition of Northeastern Governors (CONEG)-created Model Toxics in Packaging Legislation[42] (now known as Toxics in Packaging Clearinghouse), which has been adopted in 19 states. These tests help us verify that the level of incidentally introduced heavy metals—namely lead, mercury, cadmium and hexavalent chromium—does not exceed 100 parts per million. Any chemicals of concern are also sent to third-party facilities to be tested on an annual basis.

[42] The Clearinghouse | Toxics in Packaging Clearinghouse

End-of-Life Treatment

Corrugated is the most widely recycled packaging material on the planet. To promote the recyclability of our products, PCA uses the *Corrugated Recycles* symbol developed by the International Corrugated Case Association (ICCA), and promoted by the Fibre Box Association (FBA) on many of our products. By recycling used paper, boxes and scrap from the manufacturing process, the amount of timber required to be harvested is reduced. This also serves to prevent greenhouse gas emissions from decomposition in a landfill. However, there are limits to fiber recycling. Wood fibers can only be recycled five to seven times before they become too short and brittle to bond any longer, and lose most of their high-performing properties after two to three uses. Once fibers are no longer able to form quality bonds, the integrity of the paper is no longer ideal for production.

The Fiber Cycle Technical Document published by Metafore in 2006[43] (updated by the National Council for Air and Stream Improvement (NCASI) in 2019) demonstrated the need for first-use fiber in corrugated manufacturing when in a scenario analysis it showed that without the introduction of first-use fiber the North American containerboard supply would be exhausted in 13.5 months, and printing and writing grades would be exhausted in 1.5 months. Moreover, it is also worth noting that paperboard that is produced strictly from first-use (virgin) paper has a lower risk of containing unsafe chemicals. This is due to the fact that it is easier to regulate the chemical content of materials used to make virgin paper directly at a PCA mill than it is to know the chemical content of recycled materials that make their way to a PCA mill as old corrugated containers (OCC).[44]

The recycled content of our finished products is calculated based on the proportion of recovered fiber to overall production after taking into account production yield for each stream. In 2023, the average recycled content of our containerboard was 23% (8% pre-consumer/post-industrial, 15% post-consumer), with the substantial majority in our corrugating medium. Our white paper division sells products under our ASPEN® brand that specify a minimum percentage of post-consumer recycled content (30%, 50% and 100%).

43 The Fiber Cycle Technical Document | TwoSides

44 Paper and board food packaging | Food Packaging Forum

PEOPLE

HEALTH AND SAFETY

Occupational Health and Safety

Consumer Health and Safety

OPPORTUNITIES, CULTURE AND ENGAGEMENT

Employment

Learning and Development

Diversity, Equity and Inclusion

Employee Engagement and Corporate Giving

Meeting Customer Expectations

PCA is a people-centric company. We seek to achieve our strategic objectives by creating positive interactions with our people. By prioritizing the health and safety of our people and the workplace above all else, we foster an environment of trust and respect, where open dialogues result in valuable insights that help us assess and improve our ways of working together, and the efficiency and effectiveness of our business operations. This business imperative also provides meaning to the work that we do.

Occupational Health and Safety

PCA remains committed to providing and maintaining a healthy and safe work environment for our employees. Structure, processes, guidelines and procedures are put into place to ensure our employees have the resources and tools that they need to succeed and grow, and a safe work environment where they can fully carry out their tasks and assigned responsibilities.

Our Approach

We believe that all accidents are preventable, and an injury-free environment is achievable. Our goal is to prevent, reduce and address potential health and safety risks and incidents wherever and whenever possible. We have devised a four-pillar approach to preventing and mitigating any significant negative occupational health and safety impacts that are directly linked to our operations.

1. Invest in our people—We ensure that our workers have the appropriate training and protective equipment they need to succeed.

2. Invest in our equipment—We ensure that our equipment is well maintained, reliable and safe to operate.

3. Learn and improve—We keep a record of our health- and safety-related incidents and near misses and use the data for continuous improvement planning.

4. Implement controls—We have a robust Occupational Health and Safety (OHS) management system, alongside protocols and guidelines.

Occupational Health and Safety (OHS) Core Competency Teams and Governance Structure

The make-up of our core OHS competency teams varies between our box plants and mills depending on the size and complexity of the operation. The teams include Health and Safety Managers, Safety Supervisors, Safety Engineers, registered nurses (RNs), and EMTs or paramedics.

PCA has established a robust governance structure for managing OHS risk. Our Health and Safety group is responsible for the development, management and implementation of our OHS systems, the review of all incidents across all our facilities, and health and safety policy planning. It consists of a Senior Vice President, a Vice President, Senior Directors, Corporate Managers, Regional Managers, and Facility Health and Safety professionals. Collectively, our team members have demonstrated safety

excellence for decades, and many of them hold professional certifications including Certified Safety Professional (CSP) and Certified Hazardous Materials Manager (CHMM).

Our leaders strive to be strong mentors for the next generation of Health and Safety professionals at PCA. They are actively involved with and are members of our industry safety committees including the American Society of Safety Professionals (ASSP), Fibre Box Association (FBA) safety committee, American Forest & Paper Association (AF&PA), and Pulp and Paper Safety Association (PPSA). These committees work to raise awareness; share ideas and best practices; and stay current on trends, regulations and shared opportunities within the industry through meetings, roundtables and conferences. We also work with our labor unions and are actively involved with Labor/Management Health and Safety Committees to continually review PCA's safety structures and to collaborate on various safety projects. The Health and Safety group meets throughout the year for training, performance and program reviews, and strategic planning.

PCA's Sustainability Committee provides Board-level oversight of health and safety. Health and safety performance is reviewed annually by this committee.

Occupational Health and Safety (OHS) Management System

PCA has an OHS management system in place that was implemented based on risk management principles. Our OHS management system includes elements intended to engage employees, define success and provide practical guidance to achieve excellence. These elements include management commitment, safety policies, safe work rules, employee training, safety meetings, employee involvement, safety committees, facility inspections, incident investigation, medical treatment/first aid, plant emergency organizations, hazard/risk assessment, job hazard analysis, communications, industrial hygiene, ergonomics and environment.[45] Our management system elements are also incorporated into contractual labor agreements, where applicable. Resources and tools that support the management system are available to employees on PCA's Health and Safety intranet site. All employees, temporary workers and contractors are subject to and are covered by PCA's OHS management system. Contractor agreements require that foundational safety training is provided to workers, and site-specific health and safety training is also provided by PCA.[46]

PCA utilizes a third-party verifier to ensure contract workers receive adequate health and safety training, maintain written safety programs and have a demonstrable history of safe operation.

To continuously develop, update and maintain our knowledge around OHS, we have implemented a Binder Safety Program at our box plants. This program involves maintaining physical binders at each location. Each binder focuses on a specific Environmental Health and Safety (EH&S) topic. Binders contain comprehensive information including definitions, guidelines, protocols and the management of the topic. These binders are regularly reviewed and updated by each location, ensuring that safety topics remain a constant priority and that employees stay informed.

45 PCA's OHS management system accounts for requirements outlined in OSHA's Illness and Injury Prevention Program and 29 CFR Subpart R1910.261 "Pulp, Paper and Paperboard Mills." Additional guidance is provided through various standards written by the American National Standards Institute (ANSI), and Industry Practices.

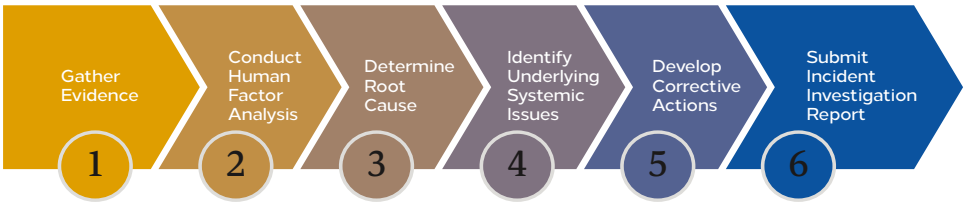
46 PCA has an internal Safe Operating Practice Instruction dedicated to practices of outside contractors, in addition to Safe Practices for Outside Contractors, available on our website.

Hazard Identification and Risk Assessment

PCA's policy requires health and safety audits to be conducted every three years at a minimum to identify work-related hazards and assess the associated risks. To ensure the sufficiency and quality of these processes, our Corporate EH&S managers visit each one of our facilities in between audits to ensure operations are continuously managed within our health and safety parameters. Job hazard analysis is conducted to identify hazards in relation to the worker, the task, the tools and the work environment. Both audits and job hazard analysis are conducted by corporate and facility Health and Safety professionals, and findings are shared internally and are used as a basis for continuous improvement of OHS protocols, practices and management systems.

Employees are instructed and encouraged to report workplace hazards along with corrective actions taken. Reporting of hazards can be communicated through entry into our electronic work order system; verbally with a supervisor, other members of management or joint Health and Safety committee members; or via the PCA Hotline. Employees who report workplace hazards may do so without fear of reprisal.[47] Employees are also not to engage in any work-related activities where the risk of injury or ill-health have not been mitigated or managed.

Incident investigation



PCA provides written instructions on how to report and investigate near misses, first-aid treatment, doctor visits, restricted duty cases and lost time accidents. We use a 6-step investigation technique designed to identify root causes and develop corrective actions utilizing the hierarchy of controls. These incidents are entered into an electronic reporting database for tracking and notification, and trending and analysis is performed. Daily injury reports are produced for each facility and used to identify leading causes of incidents, root causes and appropriate corrective actions. OSHA recordable incidents, along with significant near misses, and regulator inspections (as well as COVID cases) are reviewed in our monthly health and safety calls. Executive summaries of the reports are sent to our senior management, where data is used to develop improvement plans for incident and injury reduction.

Employee Health and Well-Being

PCA maintains and has available health and emergency response services at all its locations. Each one of our paper mills has a full-time RN on site. Our box plants have access to medical providers during hours of operation.

In addition to these services, employees may take advantage of many health and wellness procedures such as blood pressure screenings, vision screenings, health consultations, health education and over-the-counter medications. All employees are encouraged to visit the medical facility to discuss any health issues or concerns they may have at any time. PCA's converting operations have access to a 24/7 nurse triage line. All plants maintain first-aid supplies and have employees certified in CPR

[47] This is supported by union contractual language known as "Right to Act" as well as PCA's Code of Ethics and Business Conduct and federal law (U.S. Department of Labor—Whistleblower Protection Act).

and first aid. Workers are also provided with a key card so they can obtain free health and safety supplies from several of the vending machines located in each facility. Our corporate policy requires that all PCA facilities and locations be staffed with at least two individuals with CPR and first-aid certifications during each shift.

PCA has procedures and protocols in place when it comes to documentation and archiving. All health records, personal information and the health services participation data of our workers are kept and maintained in the strictest confidence and are not used for any favorable or unfavorable treatment of workers.

Promotion of Worker Health

To promote worker health, PCA provides its full-time employees subsidized benefits that include medical, dental and vision insurance. Our full-time employees also have access to an Employee Assistance Program (EAP) that provides professional, confidential advice to help employees and their household members manage work/life balance, including grief and loss, emotional wellness, substance use and abuse, legal and financial challenges, home improvement and much more. Telehealth counseling is also available through EAP, in which employees can meet with a counselor via teleconference, in the comfort of their own home. Communication for these services is provided through posters, e-mail and in our annual benefits enrollment materials.

Worker Participation, Consultation and Communication

All PCA paper mills have union contracts, which include language concerning hourly associates' participation in safety activities. This participation consists of safety committees that meet regularly to discuss issues and concerns, including evaluation of the occupational health and safety protocols and management system. The goal of the meetings is to identify opportunities to mitigate potential hazards and to serve as information exchange sessions. Hourly associates also play pivotal roles within departments, functioning as safety coordinators and auditors during shutdowns. In addition, United Steelworkers (USW), International Association of Machinists and Aerospace Workers (IAM) and PCA's management have annual contractual roundtable meetings. Employee participation in the roundtable comprises union leadership, hourly employees and management. Topics discussed cover best practices, trends and issues. Action items are identified and tracked to completion by the moderator and union officials.

PCA's converting operations maintain joint Health and Safety committees that meet monthly. Minutes are kept and posted where all employees have access. Committee members are represented by all shifts and include management and hourly employees. Safety committees participate in safe plant operating assessments, incident investigations and inspections. Other employee participation options include being a member of the plant emergency organization. In addition, Effective Joint Health and Safety Committee training is being completed at all USW-represented locations.

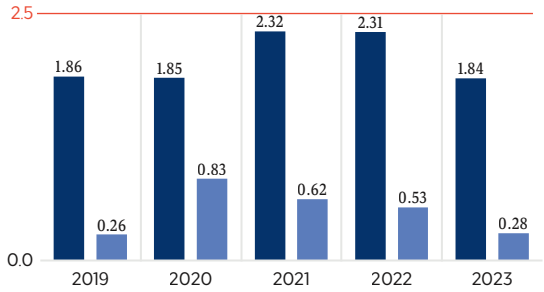
Worker Training on Occupational Health and Safety

PCA provides guidance and instruction for completing federally mandated training required under the OSHA Act.[48] Training is spread throughout the year and is delivered in a variety of methods including classroom instruction, online modules, block training and on-the-job training. In addition to the federally mandated OSHA training, each job classification has specific safety training provided prior to an hourly associate being placed in the job. Training includes task-specific safety requirements of that job and how to perform these, as well as awareness of the required task-specific

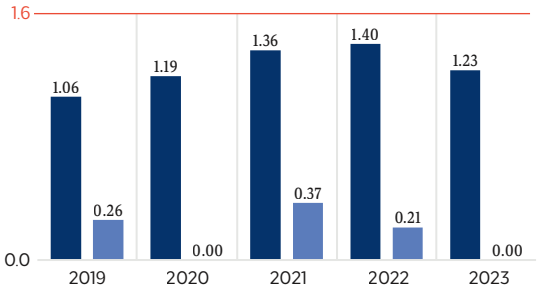
[48] Identified training includes federally mandated OSHA training under 29CFR1910.261.

personal protective equipment (PPE). Training records are maintained by each location. We have designed our training programs to bring emphasis to performing work activities in situations where health and safety risks could be present. Each month, safety managers of each of our operations also meet virtually to discuss issues that are tailored to a specific region, such as heat stress, or cause and prevention of certain incidents. Trainings are also provided throughout the year on each one of the safety topics that a binder covers. For our mills, we work with ISN (a third-party verifier) to review training and safety components for our external contractors before a contractor arrives on site.

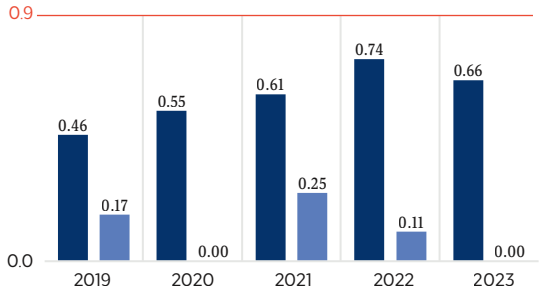
TOTAL CASE RATE (TCR)



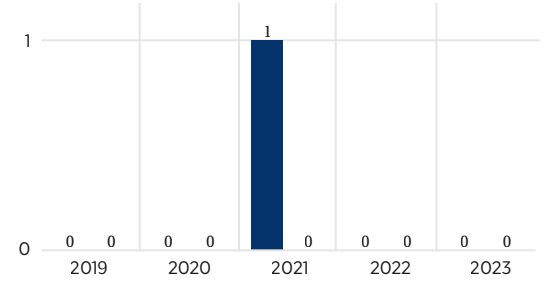
DAYS AWAY, RESTRICTED OR TRANSFERRED (DART)



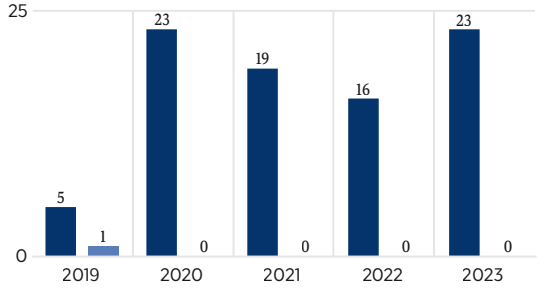
LOST TIME CASE RATE (LTCR)



FATALITIES



HIGH-CONSEQUENCE WORK-RELATED INJURIES
(excluding fatalities)



The main types of work-related injuries are cuts/lacerations, sprains/strains and thermal burns. Fatalities are incidents where a death is involved. High-consequence work-related injuries include injuries from which the worker cannot or is not expected to recover fully to pre-injury condition within 6 months (e.g., long-term complications resulting from the injuries or treatment of the injury, or a permanent loss such as

amputation of a limb). These types of hazards are determined high-consequence as they greatly if not completely prevent or restrict the worker from resuming the type of work that they carried out prior to the incident.

Recordable work-related injuries include all work-related injuries regardless of severity. The formula to calculate the rate of each is: cases × 200,000/total hours worked. All data represented is based on 200,000 hours worked; this represents the number of hours of 100 employees working 40 hours per week, 50 weeks per year, and provides the standard base for calculating incidence rate for an entire year.[49] Industry average for pulp, paper and paperboard mills is obtained from the U.S. Bureau of Labor and Statistics database.[50]

49 Occupational Safety and Health Administration Standard Number 1904

50 Injuries, Illnesses, and Fatalities | U.S. Bureau of Labor Statistics

Consumer Health and Safety

PCA believes that serving our customers, and the consumers who purchase from them, comes with significant responsibility. We strive to be a good corporate citizen and we are committed to ensuring the health and safety of those who come into contact with our products and business. Working together with our internal stakeholders and across our supply chain, we do everything we reasonably can to support the health and safety of the ultimate consumer of food, beverage, pharmaceutical and personal care products carried in PCA packaging. One hundred percent of PCA's most significant product categories are assessed under various health and safety criteria to ensure that their impacts are at the minimums required.

For more than a decade, PCA has been a leader in working to ensure the safety of corrugated packaging for food applications. In 2010 we undertook an initiative to universally implement Good Manufacturing Practices (GMPs). Concurrently, we chose to inspect our manufacturing locations and audit our food safety management systems to the appropriate American Institute of Baking (AIB) International Standards. By December 2011, all PCA full-line plants had fully implemented GMPs and successfully audited to AIB standards. Also in 2011, we began exploring the Global Food Safety Initiative (GFSI) and undertook preparations to pilot emerging GFSI-benchmarked standards for practices for implementation across our system of manufacturing plants.

Global Food Safety Initiative

GFSI provides the platform to build food safety management systems that will not only be effective but will also be externally assured, credible and universally accepted. PCA has developed, implemented and audited our food safety management systems to the FSSC 22000 standard. FSSC 22000 combines a rigorous and comprehensive set of GMPs with the internationally accepted ISO 22000 Food Safety Management standard. In 2013 we successfully launched an initiative to fulfill our commitment to certify all full-line packaging plants to FSSC 22000. To date, all our full-line packaging plants have received FSSC 22000 certification.

Food Safety Management Systems

A crucial component of our strategy is our food safety management systems, which are established and maintained at each certified operation. The foundation of these systems is based on GMPs and hazard analysis critical control points (HACCP). This foundation drives 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 is to prevent potential illness by effectively mitigating risk to consumer health and well-being. 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. Our food safety management systems are audited annually by NSF International for external assurance.

Our people work to make progress on our commitments and drive positive change. They are essential for PCA to achieve our wider business goals, objectives and success as a company. PCA has developed programs and initiatives to attract the best talent and to provide them with the tools and resources they need to advance and prosper in a safe working environment, and thrive both professionally and in their private lives. By having a diverse team of top talent and putting our people first, we create a more productive, motivated and engaged workforce. It is our goal to foster a culture that is open and welcoming to all, and we do this by investing in the well-being and growth of our people.

Employment

Our Human Resources (HR) team oversees all aspects related to employment. They provide guidance and support at every step of an employee's career cycle at PCA.

Talent Acquisition and Engagement

PCA strives to be the employer of choice and works to create a culture where all employees are treated with respect and dignity. We place a high priority on attracting talented and engaged employees. We aim to have a highly motivated, knowledgeable and diverse workforce in both skills and backgrounds. Retaining those whom we recruit and develop is paramount as we work toward achieving our objectives.

Our Talent Acquisition (TA) team manages salaried recruitment and provides assistance to the corrugated box plants and mills in their recruiting efforts to attract both hourly and salaried candidates. The Corporate HR team manages the salaried onboarding process and also conducts exit interviews.

For our corporate new hires, we have implemented a check-in process in which we connect with new employees at 30 and 90 days to follow up on their new role, gain feedback and provide any assistance that they may need. We also host "Meet and Greet" events where new hires have the opportunity to meet each other, share experiences and make a connection with one another.

For our mill new hires, employees participate in a week-long onboarding program where they meet the different members of the management team, go through HR-related topics such as payroll and benefits, and take part in a full tour at the mill before physically starting their position. For our new plant hires, employees participate in the Onboarding Compass Program during their first week of employment. This program includes template presentations, videos and presenter's guides on various topics, including safety, quality, equipment overviews and HR topics. These standard templates are then modified by each individual plant to suit their specific needs.

Our two Executive Directors of Human Resources provide support to our Area HR Managers for our corrugated box plants and HR Managers at our mills.

When an employee leaves the company, exit interviews are conducted to gain insight on their journey at PCA. Feedback is captured in the interviews and used to provide guidance to department managers on how to make improvements, if necessary, as

well as inform future HR strategy and program planning. The new hire check-in process at 30 and 90 days is an example of a program developed from the exit interview process.

NEW EMPLOYEE **HIRES** BY AGE, *2023*

	TOTAL	WOMEN	MEN
18–24	800	133	667
25–34	916	151	765
35–44	640	120	520
45–54	432	90	342
55–64	230	40	190
65+	22	2	20
GRAND TOTAL	**3,040**	**536**	**2,504**

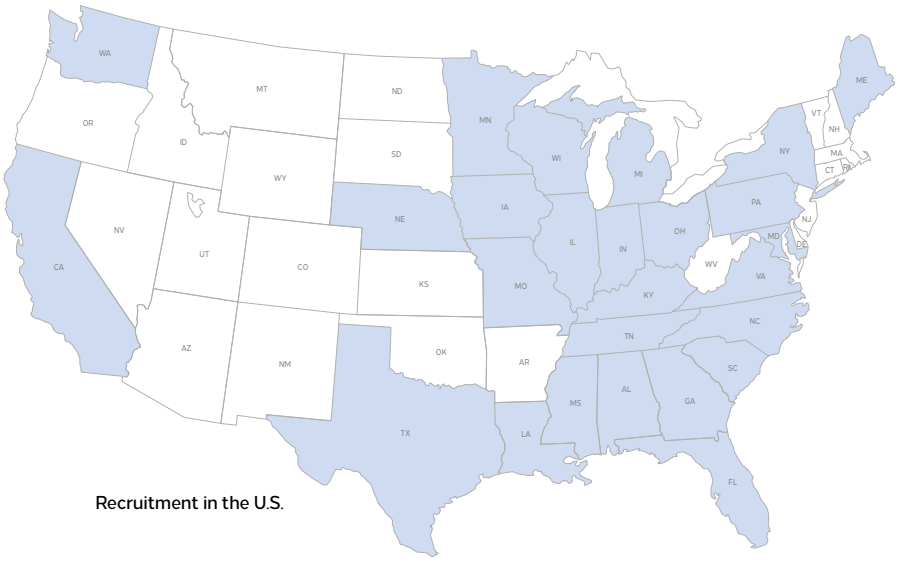
EMPLOYEE **TURNOVER** BY AGE, *2023*

	TOTAL	WOMEN	MEN
18–24	603	90	513
25–34	980	160	820
35–44	771	140	631
45–54	533	106	427
55–64	511	86	425
65+	230	37	193
GRAND TOTAL	**3,628**	**619**	**3,009**

College Recruitment

The Early Talent Program team manages the recruitment of current students looking for co-op or internship opportunities or soon-to-be graduates looking for full-time employment with PCA. PCA has partnerships with universities that have strong pulp-and-paper-related engineering programs across the United States. The goal is to attract the most qualified college students/graduates who have chemical, mechanical or electrical engineering degrees to work in one of the most interesting industries in the nation. In 2023, PCA recruited on campus at 46 colleges and universities in 26 states.[51]

In addition, in 2023 PCA began utilizing Handshake, which is an online recruitment tool for reaching students directly through their college or university's career center. This has allowed us to begin reaching a more diverse group of students across the U.S. without expending additional resources to be physically present on every campus.



Recruitment in the U.S.

[51] For the full list of colleges and universities, please see the Appendix section.

Career Development and Advancement

There are multiple leadership development opportunities available at PCA to those who show a desire and potential to advance into leadership positions. When it comes to career development, we fully embrace an open dialogue between our HR team, senior managers and our employees. Employees are encouraged to speak with their direct managers during annual performance reviews to discuss potential career advancement pathways. Our HR team also offers career consultation appointments where the employee and a member of our HR team work together to devise a plan that would help achieve the goals of both the employee and the company. For more information on PCA's training and leadership development programs, please visit the Learning and Development section of this report.

End-of-Career Transition

The Employee Benefits team is available to our employees during their employment at PCA in planning for retirement. They provide information such as retirement planning and employment benefits. When an employee reaches the end of their time at the company, a member of our HR team will reach out to them to answer any questions that they have and guide them in their transition and exit from the company. Employees are also encouraged to utilize the free resources that are available through our Employee Assistance Program (EAP) on topics such as financial planning, mental health and legal.

Employee Health and Wellness

PCA works with various healthcare providers to care for and promote the physical and emotional health and well-being of our people. Around 99.9% of PCA employees are full time and work in the United States, and paid vacation and holidays are made available to all full-time employees. Each year, full-time PCA employees can enroll in several benefits provided by the company. Purchase options for our medical, dental, vision, life insurance and disability plans are also available for our employees' spouse, children and family. A list of the benefits include:

Healthcare (the following plans are offered to salaried and hourly employees):

- **Medical plans**—Comprehensive medical plans that include prescription drug benefits. These are offered with different employee cost and benefit levels that meet the varying needs of our employees.
- **Dental plans**—Comprehensive dental plans providing full coverage for Preventive and Diagnostic (P&D) services, and different coverage for basic, major and other specialty services.
- **Vision plans**—Coverage that provides discounts on glasses and contact lenses, in addition to providing coverage for routine eye exams.
- **Flexible Spending Accounts**—Administered by HealthEquity, offers employees the option to use tax-free dollars to pay for eligible out-of-pocket healthcare or dependent care expenses.
- **Health Savings Account**—Administered by HealthEquity, available for those who enroll in the company's high-deductible medical plan option and offers a tax-free way to save for future healthcare expenses.

Life Insurance—Both basic life insurance and Accidental Death & Dismemberment (AD&D) are provided 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. Most employees will also have options to add supplemental life insurance for themselves, their spouse and children. In addition, most employees will also have an option to add supplemental AD&D for themselves or family.

Disability Coverage—Long-Term Disability (LTD) and Short-Term Disability (STD) plans for salaried and hourly employees.[52]

Parental Leave—Coverage allowed in accordance with the U.S. Family and Medical Leave Act (FMLA), including leave for the birth of a child and to bond with the newborn child, or for the placement of a child for adoption or foster care and to bond with that child.

Retirement—Both salaried and hourly employees are covered by a defined contribution plan and/or defined benefit plan. In addition, we have a third-party organization that provides advisory services for the defined contribution retirement plan to help save for and live in retirement. These services include retirement account evaluations and various online investment resources provided at no cost to the employee.

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

Employee Assistance Program (EAP)—Administered by Magellan Health, the EAP provides professional, confidential advice to help employees and their household members manage work/life balance, family and relationships, grief and loss, emotional wellness, substance use and abuse, legal and financial challenges, personalized referrals for child/adult care, education, home improvement and more.

[52] For more information on FMLA, please visit https://www.dol.gov/general/topic/benefits-leave/fmla

Learning and Development

We invest in our people and strive to equip them with skills and knowledge that will help them succeed both personally and professionally. We understand the tremendous value high-performing employees can bring, and that great leaders are a crucial ingredient to building a resilient organization. In 2023, we have continued our journey of training and educating our team members, supporting them in every step of their career progression with us, preparing them for the great opportunities that are to come. These include short, job-specific programs and online courses that focus on different skill areas such as data, customer service, management, sales and marketing, project management and more. These educational and training opportunities keep our employees current on their skills and enhance their continued professional growth. At PCA, we have something for each stage of our employees' journey with us.

In addition, PCA provides several more in-depth and detailed educational programs and opportunities that are longer in duration to those who have demonstrated both interest and ability to grow in management and leadership roles (DiSC® Assessment, Educational Assistance Program and PCA University). For more information on these opportunities, please see the Leadership and Development subsection below.

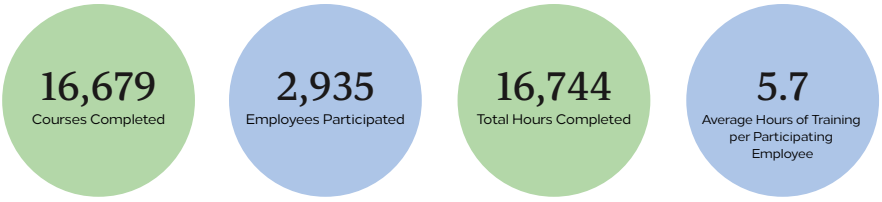
PCA's Learning and Development team oversees the development and deployment of our training and educational programs.

PCA University

In 2021, PCA partnered with Skillsoft to launch PCA University, an online learning platform specifically designed for PCA. The goal of PCA University is to provide our employees flexible and accessible tailored trainings and job-specific courses. Our e-learning courseware provides our employees across the country an opportunity to access quality content that is based on individual needs and interest, without the need for travel.

Through regular e-mail communication, employees receive learning recommendations based on their activity and top-rated courses related to the skill areas they want to develop. PCA University's course library is available to all employees. The majority of our online resources are available 24 hours per day, 7 days per week. This benefit is available at no cost to PCA learners.

2023 DATA



Function-Related Content

The coursework available on PCA University is vast and covers topics that are specific to each one of our department functions, including Environmental Health and Safety (EH&S), Mills, Manufacturing, Quality Management, Engineering, Sales & Marketing and Human Resources. These courses provide job-based knowledge that helps learners perform the day-to-day activities of their jobs.

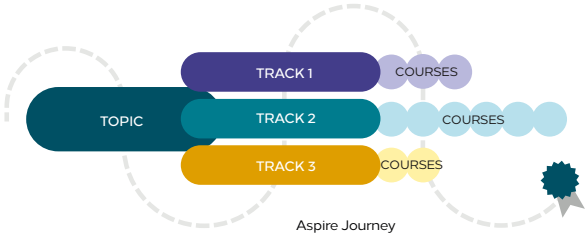
Skills Enhancement

Learners could also select courses based on a skill area or topic that they are interested in. Skill-based courses help further develop a learner's business acumen, skills and knowledge that are transferable and will help them succeed in future roles. Some examples of these courses include Diversity, Equity and Inclusion (DE&I), Management, Productivity and Collaboration, Data Management and more.

Certification Training

PCA University offers certification preparation courses that help learners sit for a wide range of certification examinations. Contents of these courses align with the exam content outline of each of the given certifications. Through Skillsoft, PCA also partners with individual certification bodies to provide courses that satisfy study hours requirements for specific certifications. Examination preparation courses include certifications from Cisco, Amazon Web Services (AWS) and Project Management Institute (PMP), just to name a few.

Aspire Journeys



Aspire Journey

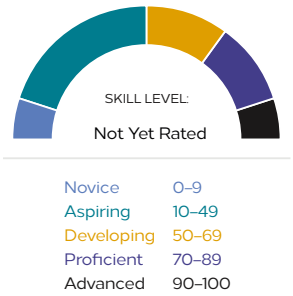
Learners who are interested in a specific topic can opt to follow an "Aspire Journey" for that topic. An "Aspire Journey" offers learners different themes to follow, where a learner completes a set of courses that are related to a specific theme as a learning path. Each course ends with a test to evaluate a learner's knowledge on the topic. Learners receive a digital badge after the completion of each theme.

Stress to Wellness

We believe knowledge and skills are not the sole ingredients for achieving professional success but also caring about mental and physical health. To reflect this understanding, PCA offers e-Learning Challenges that aim to promote mindfulness and body relaxation. These include short videos that give guidance and tips on maintaining overall wellness, from winding down at the end of a long day to breathing techniques and stretching exercises. PCA encourages employees to take a holistic approach when it comes to their overall professional development.

Skill Benchmarking

Skill Benchmark is a virtual assessment tool that enables learners to see where they stack up in a particular skill and gauge where to target their efforts. Results for an assessment are immediate, and personalized learning recommendations are provided based on the results. This is a great tool for learners to discover their strengths and gaps in any skill.



Additional Resources

PCA University offers additional resources that complement the courses that our learners take. These additional resources come in different formats and they include digital books, podcasts and audiobooks.

Industrial Maintenance Training and Development

Since 2010, PCA has provided online maintenance and safety training courses to our maintenance teams through our training partner TPC, a Certus company. TPC is an online maintenance training system that offers industry-based maintenance training nationwide, with courses on topics such as OSHA's Hazard Communication Standard, Electrical Troubleshooting, and Basic Mechanics. Our maintenance teams enroll in courses and attend live webinars covering topics related to their job function. In 2023, we had 379 learners who completed a total of 45,613 hours of training. PCA averaged 120.4 hours per participating employee.

Leadership and Development

Throughout PCA's history, several initiatives and programs have been developed internally to grow the skills and know-how of our workforce, building on the strengths of our current front-line, functional and general management leaders. We grow our programs based on the culture and needs of our company and shape our programs based on the feedback of our employees. We have embedded frequent feedback into the training process to increase engagement and ensure that content is on the leading edge. This approach helps empower our employees to grow their skillset and ensures that our customers continue to get the support they need to grow their business.

Current programs are as follows:

Blueprint for Success

Blueprint for Success is a two-year development program for college recruits graduating with an electrical, mechanical, chemical or industrial engineering degree. Engineers hired at PCA as part of the program participate in a series of technical, functional and leadership development learning opportunities. Participants are assigned six-month rotations and work on different projects on topics such as installation, efficiency and maintenance. The goal of the program is to equip engineers with the skills they need to optimize processes across PCA.

Generational Investment for Tomorrow (GIFT)

GIFT is a four-year early talent program for college recruits or other new employees who are passionate and demonstrate leadership potential. Participants rotate among and learn across operational roles such as sales, production, customer service and maintenance, and attend topic-focused national conferences throughout the year. This program was developed with the intention of building the participants' leadership development competencies, as well as a well-rounded workforce for PCA.

Leadership Development Training (LDT)

LDT is a highly selective leadership program for mid-level employees, intended for those currently demonstrating deep engagement, initiative and promise, and is positioned to support the growth of current employees that have potential to report to the General Manager level within two to five years. Participants come from a range of different disciplines and include those working in operations, finance and accounting. This eight-week program, spread over 12 months, provides participants an opportunity to experience and learn about the various operations across our different box plant locations. The LDT program takes an interactive approach, in which senior managers are invited to participate as guest lecturers, providing participants the opportunity to engage with those most experienced in the field, to ask questions and to get information in a small group setting.

DiSC Assessment and Training

Introduction to DiSC® is an assessment-based learning experience that helps people better understand themselves and others—empowering them to work better together. The workshops engage each participant in building more effective relationships at work. Better relationships start with seeing things from someone else's perspective and learning how to meet others where they are. It teaches people to understand themselves and others better while learning to appreciate the different behaviors and tendencies each person brings to the workplace.

Using personalized insights and actionable strategies, participants learn how to adapt to the style of others, ultimately improving engagement and collaboration across teams. This year, we added DiSC assessments and training in the areas of conflict resolution and emotional intelligence.

Everything DiSC® Productive Conflict increases learners' self-awareness around conflict behaviors, helping them effectively respond to uncomfortable and unavoidable challenges of workplace conflict. This learning experience combines the personalized insights of DiSC and the science of cognitive behavior to help participants recognize and transform their destructive habits into more productive responses. *DiSC® Agile EQ™* teaches employees to read the emotional and interpersonal needs of a situation and respond accordingly. By combining the personalized insights of DiSC with active emotional intelligence (EQ) development, participants discover an agile approach to workplace interactions, empowering them to meet the demands of any situation.

In 2023, 802 employees participated in our DiSC assessment and training, completing 1,711 courses and logging 6,844 training hours. The average hours of training per participating employee was 8.5.

Educational Assistance Program

PCA established the Educational Assistance Program to support salaried employees in developing their capabilities through reimbursement of costs incurred in pursuit of higher education programs. The goal is to further help employees in developing their abilities and expand position-related skills and qualifications, to better equip them with knowledge that will help them succeed in their current role and to prepare them for future career advancement opportunities. Upon approval, the Educational Assistance Program covers application fees, tuition and required textbooks. In addition, some participants of our Internship/Co-Op program qualify for tuition reimbursement.[53]

2023 EDUCATIONAL ASSISTANCE PARTICIPATION AND CONTRIBUTION

	EMPLOYEE		CO-OP		
	WOMEN	MEN	WOMEN	MEN	TOTAL
Participation	37	43	1	3	**84**
Contribution	$365,100		$7,100		**$372,200**

[53] Qualifications include minimum GPA of 3.0/4.0, at least one semester as a co-op or intern, and must be in their senior year of college.

Diversity, Equity and Inclusion

PCA recognizes that all people are unique in their own way, and anyone can bring value to our company and communities with their unique experiences and perspectives. It is our goal to ensure equal opportunities are provided and demonstrated in our workforce and customer base, and representative of the communities that we serve.

In 2021, we established a Diversity, Equity and Inclusion (DE&I) Council in efforts to prioritize DE&I-related topics and activities within the company. The Council comprised leaders from across the company including corporate, mill and corrugated business roles. In 2022, the Council set forth our areas of focus on our DE&I roadmap and provided direction to guiding PCA leaders in advancing diversity, equity and inclusion within the company.

Diversity, Equity and Inclusion Statement

At PCA, we believe that our people make the difference. We embrace the fact that every person brings unique perspectives and ideas to the workplace. Talented employees with diverse backgrounds and perspectives are critical to our ability to deliver innovative packaging solutions and exceptional customer experiences.

Our success is driven by our people who operate in an entrepreneurial culture where decisions are made closest to the customer. We are committed to fostering an inclusive work environment where all employees feel valued, respected and empowered to do their best work. We strive to be the employer of choice in markets where we operate. A culture of inclusivity builds engagement and trust and encourages our employees to be advocates for the organization. This helps us attract and retain the best talent.

A diverse and inclusive work environment is the right thing to do for our people. It is also the right thing to do for our business. Diverse and inclusive teams help us creatively engage with all our stakeholders—our employees, our customers and our communities. Diversity of thought helps us drive innovation, and inclusive teams collaborate effectively to deliver results.

We will advance diversity and inclusion throughout our organization by:

- **Investing in our people through training and development**. Our employees are expected to actively participate and expand their skills and knowledge. This allows us to build on our proven track record of promoting from within.
- **Seeking feedback from our employees** through employee engagement surveys.
- **Actively engaging with the communities** in which we operate.
- **Supporting a culture where employees feel empowered** to share their experiences.

Our Progress

Handshake is one of the largest early career networks in America. In 2023, we upgraded our service with Handshake to become a premium member, with the goal to deepen and diversify our early talent pool with qualified candidates. Being a premium member, we have access to educational institutions that include Historically Black Colleges/Universities, Hispanic-Serving Institutions, Asian American and Native American Pacific Islander-Serving Institutions, and Women's Colleges. Handshake also provides a large bank of candidate profiles including underrepresented groups such as those who identify as women, LGBTQ+, Black, Latinx and Asian.

Our approach is guided by the work of our DE&I Council and supported by leaders across our company. While our efforts are in the early stages, we aim for changes that are not just immediate but will lay the groundwork for a more inclusive environment over time. We're currently focusing on improving how we capture data and engage with our employees, as this will help us better understand the areas where we need to focus our efforts.

Our mission is clear and simple—to embrace and harness each one of our unique differences to create a better future for our customers, employees and the communities that surround us.

Our commitment is to a journey of continuous learning and improvement, aiming to hire the best talent and to make a positive impact on our company culture.

Primary Initiatives:

- **Our People**: PCA offers a growing number of resources through PCA University on diversity, equity and inclusion topics. This includes our DE&I Simulations series where learners can practice DE&I scenarios. These scenarios simulate real-world situations to devleop skills for responding to diversity, equity and inclusion issues. Several e-books are also available to provide helpful tools on leadership with a DE&I mindset.
- **Our Business (Suppliers)**: We have developed a web-based questionnaire to identify and promote certified diverse/minority suppliers' business engagements with both our paper mills and box plants. Diverse supplier categories include women-owned business, veteran-owned business, small business and minority-owned business. We provide data to our customers on our diverse spend, upon request.
- **Our Communities**: We expanded and re-launched ProjectUP as PCA's flagship community engagement program.

Equal Opportunity and Affirmative Action

We are proud to be an equal opportunity workplace and an affirmative action employer. We take a proactive approach to recruit diverse and talented applicants by sending open job postings to local organizations that specialize in recruiting protected classes of job candidates. On the following page is a summary of PCA's employees and Board of Directors demographics.

Pay Equity

PCA's commitment to a fair and equitable workplace extends to our pay practices.

Our Compensation Committee establishes PCA's general compensation philosophy and oversees the development and implementation of compensation programs of our executives. It also reviews and approves corporate goals and objectives relevant to the compensation of the Chief Executive Officer, along with the other named executive officers (NEOs) and makes recommendations to the Board with respect to compensation programs including any employment agreements applicable to the executive officers of PCA.[54]

Our fair pay efforts for employees are led by our HR team. We utilize a data-driven approach to conduct routine pay equity analysis to recognize trends, to understand what is fair and equitable in the pulp and paper industry, and to resolve pay discrepancies. We conduct pay assessment at the start of each new position to ensure each

[54] For more information on PCA's Compensation Committee, see PCA Compensation Committee Charter.

employee receives an accurate evaluation and compensation package that aligns with the position, accounting for an employee's reasonable differentials, such as work experience, education and credentials. We also have a robust system in place to validate our data to ensure fair pay practices are in place and are being implemented.

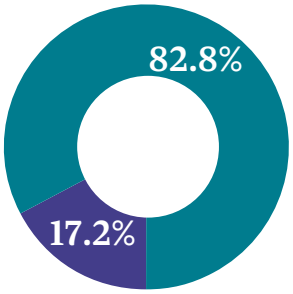
Diversity of Governance Bodies and Employees

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.[55] In the Appendix to this report, you will find our U.S. Equal Employment Opportunity Commission's EEO-1 Report, which includes ethnicity and gender details.

EMPLOYEE POPULATION *2023*

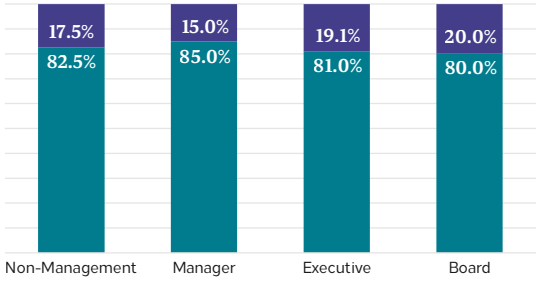
PCA is committed to developing, promoting and maintaining a culture and environment of respect and inclusion.

TOTAL NUMBER OF EMPLOYEES BY GENDER *2023*



Data presented for calendar year 2023, as of 12/31/23

DIVERSITY OF EMPLOYEES BY GENDER *2023*



Sum of percentages for each category may not equal 100% due to independent rounding.

DIVERSITY OF EXECUTIVES BY GENDER AND AGE *2023*

BOARD MEMBERS	WOMEN	MEN
30–50 years old	—	—
Over 50 years old	2	8

EXECUTIVE OFFICERS	WOMEN	MEN
30–50 years old	—	—
Over 50 years old	2	9

OFFICERS	WOMEN	MEN
30–50 years old	1	3
Over 50 years old	5	22

[55] Nominating and Governance Committee Charter

Employee Engagement and Corporate Giving

An engaged workforce is essential to providing outstanding customer service and developing sustainable solutions that exceed our customers' expectations. Our employee engagement program, *Your Opinion Counts*, is offered to approximately 10,000 employees of PCA's Corrugated Products group. Our customer engagement program, *Customer ConneXions*, is currently offered to customers of PCA's Corrugated Products group. These programs help us focus our efforts to ensure we are meeting our employees' needs and exceeding our customers' expectations every day.

Employee Engagement, *Your Opinion Counts*

At PCA, we believe that our people make the difference. Our culture encourages each person to do their best and to do what's right—for each other and for our customers. We hold ourselves accountable for results and continuously strive for improvement.

To promote engagement and improve our employees' work experience, PCA conducts an employee survey called *Your Opinion Counts* every two years. PCA measures employee engagement based on three key categories: **"Say," "Stay"** and **"Strive."**

SAY—equates to whether employees are advocates for the organization and would recommend PCA as a great place to work.

STAY—measures their willingness to stay with PCA. We all know the costs of attracting, hiring, onboarding and training new talent. So, we want to retain the employees we have.

STRIVE—measures employees' willingness to expend discretionary effort and go above and beyond to help PCA meet its business objectives.

Your Opinion Counts Survey

PCA's *Your Opinion Counts* survey solicits feedback and input from our employees on their work experience. It provides us an opportunity to gain a deeper understanding of our employees' perceptions toward PCA and is a way for us to understand what we are doing well as well as any concerns our employees may have. The survey examines different dimensions of the workplace, including engagement, performance management, safety and responsibility, teamwork, career and development, rewards and recognition, diversity and inclusion, customer focus and more.

PCA partners with an external provider that specializes in employee engagement, people strategy and organizational culture to develop, administer and interpret our employee survey. We are committed to confidentiality within the survey process, allowing our employees to provide their honest feedback. The survey asks employees questions relevant to their work experience and can also be compared to industry benchmarks. We survey approximately 10,500 employees and include both salaried and hourly employees from our corrugated division and a selection of our corporate departments. To ensure a high level of participation, the survey is taken during work hours and can be completed online through one of three methods: scanning a QR code, using a computer kiosk or clicking on an e-mail link.

Once the survey period has ended, results are collected, tabulated and analyzed by our partner. These results are then presented to our leadership team. Subsequently, all compiled data and results are made available on a dashboard to leadership teams at the local level so that they can use the feedback to make improvements within their own operations. Survey action teams are formed at each location to review the results and formulate strategies to make improvements. Our results dashboard also includes a module that provides a list of "recommended actions" that local teams can take to address concerns, increase employee engagement and make PCA an even better place to work.

Our last survey, conducted in 2022, had a high level of participation, assuring us that the survey results were an accurate reflection of the feelings and opinions of our employees. The results showed that PCA's overall employee engagement level is in line with other U.S. manufacturing companies. In our survey responses, our employees reaffirmed our strong safety culture and that they feel PCA is socially and environmentally responsible. In addition, most employees acknowledged that they know what is expected from them and how their work contributes to PCA's success.

Our 2024 survey is scheduled from April 30 through May 21. Communication about the upcoming survey has been ongoing and our departments and plants have been preparing to ensure that every voice has an opportunity to be heard.

PCA Open House

In December 2023, we hosted our inaugural PCA Holiday Open House. We invited our employees, along with their family and friends, to visit our PCA headquarters in Lake Forest, Illinois, for an afternoon of holiday fun, including activities and refreshments. Employees had a chance to meet and socialize with colleagues, while families and friends had a chance to see the work environment of their loved ones.

To prepare for the event, the corporate office was transformed into a winter wonderland complete with a display called "Fluterville." The village, designed and constructed by our corrugated and Hexacomb® plants, consisted of model trains and structures, including town buildings and miniature artifacts like trees and fences. Fluterville demonstrated the diversity of corrugated and gave our employees and their families an opportunity to see our products used in a non-traditional way.

Network, Learn and Give

PCA believes in building strong relationships within our organization. Employees are given the opportunity to engage in networking activities where they gather in social settings to have fun. Activities have included those that are aimed at giving back, including food packing activities for charitable organizations and "build-a-bike" events where bikes are built and donated to the Boys & Girls Clubs of America. To encourage teambuilding, employees have participated in a variety of activities, including escape rooms and scavenger hunts.

PCA also promotes continued learning. Our corporate office hosts education-focused "Lunch and Learns," which enable employees to learn about different departments, the roles within those departments and how they support PCA. Additionally, our senior leaders are also invited to discuss their roles and answer questions.

Celebrations

PCA recognizes the importance of celebrating traditions, our employees and our overall success. Our offices, packaging plants and mills observe and celebrate annual holidays by organizing local celebrations and events throughout the year, where friends and family of employees also have a chance to participate. We also celebrate important employee milestones, including birthdays, anniversaries and life-changing events. In addition, our plants reward outstanding performance through luncheons, awards and other incentives.

ProjectUP

ProjectUP is PCA's and Boise Paper's nationwide community outreach program that works to uplift communities through the revival of urban spaces, giving residents access to trees and the countless benefits they provide. PCA partners with the Arbor Day Foundation to plant trees in identified areas of need.

Since 2011, the ProjectUP program, along with its partners and more than 1,500 volunteers, has planted over 4,000 trees and other woody plants and perennial flowers in neighborhoods throughout the country, including Indianapolis, Baltimore, Miami, Toronto, Atlanta, Los Angeles, Chicago, Phoenix and Jacksonville.

ProjectUP's most recent initiative took place at Perspectives Leadership Campus in Chicago in October 2023. Perspectives, a charter school organization serving students grades 6–12 in the city of Chicago, is located near a busy highway, which creates both noise and pollution. With the help of our local tree-planting partner, Morton Arboretum, PCA volunteers and Perspectives students planted 65 trees around the campus. The newly planted trees will help reduce air and noise pollution, enabling students to increase their time spent outdoors.

ProjectUP events are ongoing and are being scheduled throughout 2024.

Local Community Outreach

PCA facilities throughout the U.S. are committed to supporting the communities in which we live and work. Each year, our offices and plants hold a variety of activities and events designed to support local communities. In 2023, members of our corporate office in Lake Forest, Illinois, built literacy kits that included books, snacks and coloring kits to be distributed to Chicago-area kids during the holidays. PCA's Huntsville, Alabama, sheet plant holds an annual charity event, which raises money that is donated to employee-selected charities within the community. In 2023, the event benefitted Huntsville's Downtown Rescue Mission. Our offices and plants sponsor charitable outings and donate to local chapters of organizations like Toys for Tots and the Special Olympics. Additionally, they hold annual food drives and donate products to schools for STEM building challenges and afterschool activities.

Charitable Giving

In 2023, PCA gifted the University of Maine in Orono, Maine, with $1.6 million to establish the *Packaging Corporation of America UMaine Sustainable Packaging Initiative Fund*. This gift enables students and faculty research staff to advance its Sustainable Packaging Initiative projects through infrastructure improvements, equipment purchases, upgrades and replacements for the Process Development Center (PDC). These improvements will be fundamental for conducting mechanical properties testing and analysis of packaging grades that the PDC is unable to do now. The Sustainable Packaging Initiative is a research, development and commercialization, public and private consortium that focuses on the use of forest-based materials to accelerate the transition to renewable packaging made from wood fiber and paper.

Each year, our box plants and mills also participate in community events and make donations to local charities that are based on community needs. Some examples of local charities we donated to this year include Alzheimer's Association, Make-A-Wish Foundation, The Salvation Army, St. Jude Children's Research Hospital, Lake Forest Civic Orchestra, Tomahawk School District, various locations of United Way, Lurie Children's Hospital of Chicago, Mothers Trust Foundation, Special Olympics Illinois, and Women's Board of Northwestern Lake Forest Hospital.

CHARITABLE GIVING *Cash donations (dollars)*

	2019	2020	2021	2022	2023
TOTAL	**$3,726,000**	**$985,000**	**$944,000**	**$1,609,000**	**$2,906,000**
Education (Schools and Scholarships)	80%	29%	27%	33%	**65%**
Charitable Organizations	20%	71%	73%	67%	**35%**

Meeting Customer Expectations

Corrugated packaging plays an important role in nearly every business by containing and protecting products during distribution. It would not be possible to efficiently transport most goods without corrugated packaging.

Many decisions made by our customers are driven by consumers. For that reason, it is important for us to help our customers by educating consumers on the sustainability of corrugated packaging and other paper products. We participate in the Paper and Packaging Board and their *How Life Unfolds®* campaign, which educates consumers about our industry's unrivaled sustainability story through television advertisements, engaging videos and social media content.

An engaged workforce is essential to providing outstanding customer service and developing sustainable solutions that exceed our customers' expectations. Our employee engagement program, *Your Opinion Counts*, is offered to approximately 10,000 employees of PCA's Corrugated Products group. Our customer engagement program, *Customer ConneXions*, is currently offered to customers of PCA's Corrugated Products group. These programs help us focus our efforts to ensure we are meeting our employees' needs and exceeding our customers' expectations every day.

Customer Engagement, *Customer ConneXions*

Our customers know that a partnership with PCA isn't just about buying boxes. It's about building a relationship with a knowledgeable, trusted and committed source that actively contributes to their ongoing success in the marketplace. PCA takes this responsibility seriously. We engage with our customers regularly to ensure we understand their business and packaging needs. Our sales and customer service reps interact with customers daily, serving their business needs while fostering strong relationships. Additionally, our teams conduct business reviews on an ongoing basis to ensure PCA is aligned with our customers' business interests.

Our formalized process for collecting, analyzing and reporting on customer feedback is through our customer survey called *Customer ConneXions*. We survey our customers on a regular basis to measure their perceptions and ensure that we are delivering on our promises. Our most recent survey wave was completed in September 2023, and was targeted to customers that make up roughly 80% of our sales. We asked customers to rate various facets and touchpoints of our business: Sales Reps, Customer Service Reps, products, service and their overall experience with PCA. When asked how likely they are to recommend PCA to a peer or colleague, responses yielded a Net Promotor Score (NPS) of 60. NPS is rated on a scale of -100 to +100, and anything over 0 is good. According to Bain & Company, 50 and over is "excellent" and 80 and over is considered "world class." For added insight, we provided several open-ended questions where customers provided free-form comments on various topics.

The administration of this survey is an important part of our feedback cycle with our customers. It helps us understand our performance and provides guidance on areas of importance to our customers, enabling us to build stronger collaborative partnerships and ensuring we deliver on our promise to meet and exceed customer expectations.

Supplier Engagement

It is important for PCA to maintain open dialogues and transparent relationships with our suppliers. Suppliers are engaged throughout the year via calls, e-mails and face-to-face meetings through our supplier relationship management efforts and our quality and food safety supplier engagement activities. Suppliers also have the opportunity to visit our headquarters in Lake Forest where they present to us their quarterly or annual review, which often includes their sustainability vision and how they can help us reach our goals.

Supplier Code of Conduct

We leverage our Code of Ethics and Business Conduct to communicate our expectations of suppliers, because we cannot hold our suppliers to a higher standard than we hold ourselves. Our Code of Ethics and Business Conduct states: All consultants, agents, suppliers, and contractors serve as an extension of PCA. They are expected to follow the spirit of our Code, as well as any applicable contractual provisions, when working on behalf of PCA. The Code of Ethics and Business Conduct can be found in the Corporate Governance section of the PCA website.

Supplier Relationship Management

PCA's supplier relationship management efforts are jointly shared across various departments and operations. We work to identify long-term gains for both our suppliers and PCA, and we collaborate with our suppliers to achieve these. ESG criteria are considered throughout our supplier procurement and onboarding process; this includes tenders, supplier assessment and contracts. Our supplier relationship building and management strategies include understanding and accommodating the interests of our suppliers, ensuring smooth transactions, evaluating and monitoring supplier risks and maintaining regular communication.

Quality and Food Safety

Our Quality and Food Safety teams work closely with our Corporate Purchasing and Product Stewardship teams to engage with our suppliers to ensure our products and the materials we use are safe and do not cause any food safety concerns for our customers and end users, while meeting their intended purpose and specification. We do this by providing our internal quality control teams at our different locations with the training and resources that they need to meet their quality and food safety requirements from our suppliers, including a common lexicon that will help facilitate the process.

APPENDIX

Disclaimer and Forward-Looking Statements

The contents of this report contain forward-looking statements. These statements include PCA's business and sustainability strategies, initiatives, commitments, goals and targets, and are based on our current assumptions, expectations and projections of information that are available to PCA and that we believe to be reasonable at the time of acquiring such information. These forward-looking statements are not predictions of, or expectations of definite financial performance. They do not warrant or guarantee future results of any kind and carry a number of risks and uncertainties that could cause actual results to differ materially, along with other unknown or unpredictable factors. These unknown and unpredictable factors may present additional barriers and impede the realization of forward-looking statements made in this report. Undue reliance should not be placed on forward-looking statements, which speak only as of the date these are made. Resources and references mentioned in this report were current only as of the date these were obtained. PCA disclaims any obligation to publicly provide updates to any forward-looking statements made in this report either as a result of new information or changes to our strategies and plans.

GRI Index

PCA_2023_Responsibility_Report_GRI_Index.pdf

SASB Index

PCA_2023_Responsibility_Report_SASB_Index.pdf

TCFD Index

PCA_2023_Responsibility_Report_TCFD_Index.pdf

Membership of Associations

American Forest & Paper Association (AF&PA)
American Forest Resource Council (AFRC)
American Society for Quality (ASQ)
ASTM International
Corrugated Packaging Alliance (CPA)
Envelope Manufacturers Association (EMA)
Federal Water Quality Coalition (FWQC)
Fibre Box Association (FBA)
Forest Stewards Guild
Forest Stewardship Council® (FSC®)
Institute of Packaging Professionals (IoPP)
International Corrugated Case Association (ICCA)
International Corrugated Packaging Foundation (ICPF)
International Organization for Standardization (ISO)
International Safe Transit Association (ISTA)
National Council for Air and Stream Improvement (NCASI)
National Fire Protection Association (NFPA)
National Paper Trade Association (NPTA)
North American Forest Partnership (NAFP)
Programme for the Endorsement of Forest Certification (PEFC)
Pulp and Paper Safety Association (PPSA)
Recycled Paperboard Technical Association (RPTA)
Society for Human Resource Management (SHRM)
Society of American Foresters (SAF)
Supplier Ethical Data Exchange (SEDEX)
Sustainable Forestry Initiative® (SFI)
Sustainable Packaging Coalition (SPC)
Technical Association of Pulp & Paper Industry (TAPPI)
The Longleaf Alliance
The Nature Conservancy

List of Colleges Where We Recruit

AL	Auburn University
	University of Alabama
	University of South Alabama
CA	California Polytechnic State University—San Louis Obispo
FL	Florida State University
	University of Florida
GA	Georgia Institute of Technology
	Georgia Southern University
	Kennesaw State University
	University of Georgia
IA	Iowa State University
	University of Iowa
IL	Illinois Institute of Technology
	Loyola University Chicago
	Northwestern University
	Southern Illinois University—Carbondale
	University of Illinois Chicago
	University of Illinois Urbana-Champaign
IN	Indiana University
	Purdue University
KY	Eastern Kentucky University
LA	Louisiana Tech University
	University of Louisiana at Lafayette
MD	University of Maryland
ME	University of Maine
MI	Calvin University
	Central Michigan University
	Eastern Michigan University
	Grand Valley State University
	Michigan State University
	Michigan Technological University
	University of Detroit Mercy
	University of Michigan
	Western Michigan University
MN	Iron Range Engineering
	University of Minnesota Duluth
	University of Minnesota Twin Cities
MO	Missouri University of Science and Technology
MS	Mississippi Gulf Coast Community College
	Mississippi State University
NC	Appalachian State University
	North Carolina State University
	University of North Carolina at Charlotte
NE	University of Nebraska—Lincoln
	University of Nebraska—Omaha
NY	State University of New York (SUNY) at Buffalo
	State University of New York (SUNY) College of Environmental Science and Forestry
OH	Kent State University
	Miami University
	Ohio State University
	University of Cincinnati
PA	University of Pittsburgh
SC	Clemson University
TN	Tennessee Tech University
	University of Memphis
	University of Tennessee at Chattanooga
	University of Tennessee at Martin
TX	Lamar University
	Texas A&M University
VA	Virginia Polytechnic Institute and State University
WA	Washington State University
WI	University of Wisconsin—Madison
	University of Wisconsin—Platteville
	University of Wisconsin—Stevens Point
	University of Wisconsin—Stout

Emission Factors and Global Warming Potential (GWP)

SCOPES 1 & 2	
Scope 1	U.S. EPA MRR: Final Rule (40 CFR 98)—Industrial Sector 2013
Scope 2 (location-based, 2019)	U.S. EPA eGRID: eGRID 2020 (w/ 2018 Data)
Scope 2 (location-based, 2020)	U.S. EPA eGRID: eGRID 2021 (w/ 2019 Data)
Scope 2 (location-based, 2021)	U.S. EPA eGRID: eGRID 2022 (w/ 2020 Data)
Scope 2 (location-based, 2022)	U.S. EPA eGRID: eGRID 2023 (w/2021 Data)
Scope 2 (location-based, 2023)	U.S. EPA eGRID: eGRID 2024 (w/2022 Data)
SCOPE 3	
Category 1—Purchased Goods and Services	- Life cycle assessment of caustic soda production: A case study in China, 2013 - Life cycle assessment study of starch products for the European starch industry association (AAF): Sector study, Figure 3 - Life cycle assessment of forest harvesting and transportation operations in Tennessee - Environmental impacts of roundwood supply chain options in Michigan: Life cycle assessment of harvest and transport stages
Category 2—Capital Goods	- Carnegie Mellon University Green Design Institute (2020) Economic Input-Output Life Cycle Assessment (EIO-LCA) U.S. 2002 (428 sectors) Purchaser model
Category 3—Fuel- and Energy-Related Activities	- U.S. EPA eGRID: Grid Gross Loss (GGL) - DEFRA GHG Converstion Factors for Company Reporting, 2021
Category 4—Upstream Transportation and Distribution	- Life cycle assessment of forest harvesting and transportation operations in Tennessee - Environmental impacts of roundwood supply chain options in Michigan: Life cycle assessment of harvest and transport stages
Category 5—Waste Generated in Operations	- U.S. EPA Solid Waste Management and Greenhouse Gases. A Life Cycle Assessment of Emissions and Sinks, 3rd edition.
Category 6—Business Travel	- U.S. EPA MRR—Final Rule (40 CFR 98)—Industrial Sector 2013; EPA (2014) Inventory of U.S. Greenhouse Gas Emissions and Sinks - Air Travel factors from 2017 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting. Version 1.0 August 2017
Category 7—Employee Commuting	- EPA Hub (Mar 2018), CO_2, CH_4, N_2O emissions data for highway vehicles are from Table 2-13 of the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015. Vehicle-miles and passenger-miles data for highway vehicles are from Table VM-1 of the Federal Highway Administration Highway Statistics 2015.
Category 9—Downstream Transportation and Distribution	- EDF Green Freight handbook, Rail, Distance - U.S. EPA MRR—Final Rule (40 CFR 98)—Industrial Sector 2013; EPA (2014) Inventory of U.S. Greenhouse Gas Emissions and Sinks
Category 12—End-of-Life Treatment of Sold Product	- EPA Emission Factors Hub (April 2021), Table 9
Categories 8—Upstream Leased Assets, 10—Processing of Sold Products, 11—Use of Sold Products, 13—Downstream Leased Assets, 14—Franchises, 15—Investments	Not Relevant
GLOBAL WARMING POTENTIAL	
CH_4 (2019)	25
N_2O (2019)	298
CH_4 (2020–2022)	28
N_2O (2020–2022)	265
CH_4 (2023)	27.2 (non-fossil origin) 29.8 (fossil origin)
N_2O (2023)	273

Employer Information Report EEO-1, Employment Data

JOB CATEGORIES		NUMBER OF EMPLOYEES (Report employees in only one category)													
		RACE/ETHNICITY													
		HISPANIC OR LATINO		NOT-HISPANIC OR LATINO											
				MALE						FEMALE						
		MALE (A)	FEMALE (B)	White (C)	Black or African American (D)	Native Hawaiian or Other Pacific Islander (E)	Asian (F)	American Indian or Alaska Native (G)	Two or More Races (H)	White (I)	Black or African American (J)	Native Hawaiian or Other Pacific Islander (K)	Asian (L)	American Indian or Alaska Native (M)	Two or More Races (N)	TOTAL COLUMNS A–N
Executive/ Senior-Level Officials and Managers	(1.1)	1	1	94	0	0	9	0	0	21	0	0	3	0	0	**129**
First/Mid-Level Officials and Managers	(1.2)	189	29	1,322	70	5	27	9	11	278	12	0	10	1	2	**1,965**
Professionals	(2)	51	55	548	19	2	25	1	7	393	22	3	21	1	5	**1,153**
Technicians	(3)	5	0	41	1	0	0	0	0	9	0	0	0	0	0	**56**
Sales Workers	(4)	27	60	346	5	2	2	1	0	282	8	0	3	4	7	**747**
Administrative Support Workers	(5)	35	18	163	16	0	6	0	2	123	11	1	2	0	2	**379**
Craft Workers	(6)	137	2	1,209	58	1	14	8	16	16	2	0	0	0	0	**1,463**
Operatives	(7)	1,514	210	3,429	1,002	56	175	32	96	389	138	13	18	4	18	**7,094**
Laborers and Helpers	(8)	332	105	764	326	19	35	10	28	150	67	7	10	1	10	**1,864**
Service Workers	(9)	5	3	16	5	0	0	0	0	5	4	0	0	0	0	**38**
TOTAL EMPLOYEES	(10)	**2,296**	**483**	**7,932**	**1,502**	**85**	**293**	**61**	**160**	**1,666**	**264**	**24**	**67**	**11**	**44**	**14,888**

EEO-1 Consolidated—Analysis Data as of 12/31/2023

Board of Directors

The table below lists the self-identified gender and race of each director by EEO-1 Classification.

	C. Beebe	D. Farrington	D. Harman	M. Kowlzan	R. Lyons	T. Maurer	S. Mencoff	R. Porter	T. Souleles	P. Stecko
GENDER										
MALE		●		●	●	●	●	●	●	●
FEMALE	●		●							
RACE/ ETHNICITY										
White	●		●	●	●	●	●	●	●	●
Hispanic										
Black or African American		●								
Asian										
Native Hawaiian or Other Pacific Islander										
American Indian or Alaska Native										
Two or More Races										

Master Data Table

Restated data shown in italics

	UNIT OF MEASURE	2023	2022	2021	2020	2019
PRODUCTION AND SHIPMENTS						
Containerboard Production	thousand tons	**4,529**	4,566	4,887	4,341	4,249
Corrugated Shipments	billion square feet (BSF)	**60.5**	63.4	65.7	62.8	59.4
White Paper (UFS) Production	thousand tons	**472**	506	572	648	947
OCCUPATIONAL HEALTH AND SAFETY						
Employee Days Away, Restricted or Transferred (DART)	cases × 200,000/total hours worked	**1.23**	*1.40*	*1.36*	*1.19*	*1.06*
Employee Lost Time Case Rate (LTCR)	cases × 200,000/total hours worked	**0.66**	*0.74*	*0.61*	*0.55*	*0.46*
Employee Total Case Rate (TCR)	cases × 200,000/total hours worked	**1.84**	*2.31*	2.32	1.85	*1.86*
Employee Fatalities		**0**	0	1	0	0
Employee High-Consequence Work-Related Injuries (Excluding Fatalities)		**23**	16	19	23	5
Temp. Worker Days Away, Restricted or Transferred (DART)	cases × 200,000/total hours worked	**0.00**	*0.21*	*0.37*	*0.00*	*0.26*
Temp. Worker Lost Time Case Rate (LTCR)	cases × 200,000/total hours worked	**0.00**	*0.11*	*0.25*	*0.00*	*0.17*
Temp. Worker Total Case Rate (TCR)	cases × 200,000/total hours worked	**0.28**	*0.53*	*0.62*	*0.83*	*0.26*
Temp. Worker Fatalities		**0**	0	0	0	0
Temp. Worker High-Consequence Work-Related Injuries (Excluding Fatalities)		**0**	0	0	0	1
LEARNING AND DEVELOPMENT						
Average Training Hours per Employee	hours/employee	**4.2**	2.0	1.8	1.6	-
Female Employee Participation in Degree Pursuit Program		**37**	39	37	42	38
Male Employee Participation in Degree Pursuit Program		**43**	41	31	43	38
Female Co-Op Participation in Degree Pursuit Program		**1**	0	0	0	3
Male Co-Op Participation in Degree Pursuit Program		**3**	1	7	9	6
Total Participation in Degree Pursuit Program		**84**	81	75	94	85
Total Contribution for Degree Pursuit Program	U.S. dollars	**$372,200**	$444,100	$446,300	$435,000	$468,200
EMPLOYMENT						
Grand Total New Hires		**3,040**	4,261	3,293	2,199	3,010
Total New Hires of Female Employees		**536**	835	630	331	519
Total New Hires of Male Employees		**2,504**	3,426	2,663	1,868	2,419

	UNIT OF MEASURE	2023	2022	2021	2020	2019
New Hires of Female Employees 18–24 Years Old		**133**	168	126	91	131
New Hires of Male Employees 18–24 Years Old		**667**	772	637	473	639
New Hires of Female Employees 25–34 Years Old		**151**	231	183	93	176
New Hires of Male Employees 25–34 Years Old		**765**	1,102	861	632	848
New Hires of Female Employees 35–44 Years Old		**120**	204	157	69	100
New Hires of Male Employees 35–44 Years Old		**520**	740	575	379	496
New Hires of Female Employees 45–54 Years Old		**90**	145	120	53	77
New Hires of Male Employees 45–54 Years Old		**342**	465	380	255	341
New Hires of Female Employees 55–64 Years Old		**40**	79	43	25	32
New Hires of Male Employees 55–64 Years Old		**190**	309	201	116	159
New Hires of Female Employees 65+ Years Old		**2**	8	1	0	3
New Hires of Male Employees 65+ Years Old		**20**	38	9	13	8
Grand Total of Employee Turnover		**3,628**	4,051	3,572	2,623	2,611
Total Turnover of Female Employees		**619**	749	616	437	461
Total Turnover of Male Employees		**3,009**	3,302	2,956	2,186	2,150
Turnover of Female Employees 18–24 Years Old		**90**	133	110	69	118
Turnover of Male Employees 18–24 Years Old		**513**	495	461	337	386
Turnover of Female Employees 25–34 Years Old		**160**	196	150	110	112
Turnover of Male Employees 25–34 Years Old		**820**	1,103	847	542	589
Turnover of Female Employees 35–44 Years Old		**140**	157	145	84	67
Turnover of Male Employees 35–44 Years Old		**631**	675	577	409	388
Turnover of Female Employees 45–54 Years Old		**106**	122	101	76	73
Turnover of Male Employees 45–54 Years Old		**427**	466	444	306	316
Turnover of Female Employees 55–64 Years Old		**86**	98	86	72	60
Turnover of Male Employees 55–64 Years Old		**425**	456	416	405	328
Turnover of Female Employees 65+ Years Old		**37**	43	24	26	31
Turnover of Male Employees 65+ Years Old		**193**	197	211	187	143
EMPLOYEES						
Total Employees		**14,900**	15,100	15,200	15,200	15,500
Total Salaried Employees		**4,300**	4,400	4,400	4,500	4,500
Total Hourly Employees		**10,600**	10,700	10,800	10,700	11,000
Employees Covered by Collective Bargaining Agreements (CBA)		**6,678**	6,527	6,840	6,634	6,930
Hourly Employees in CBA as % of Total Hourly Employees		**63%**	61%	63%	62%	63%
Employees in CBA as % of All Employees		**45%**	43%	45%	44%	44%

	UNIT OF MEASURE	2023	2022	2021	2020	2019
Percentage of Female Employees		**17%**	17%	17%	16%	17%
Percentage of Male Employees		**83%**	83%	83%	84%	83%
Percentage of Employees Under 30 Years Old		**17%**	-	-	-	-
Percentage of Employees 30–50 Years Old		**47%**	-	-	-	-
Percentage of Employees Over 50 Years Old		**36%**	-	-	-	-
Percentage of Permanent Employees		**99.6%**	-	-	-	-
Percentage of Temporary Employees		**0.4%**	-	-	-	-
Percentage of Full-Time Employees		**99.9%**	99.9%	99.9%	99.9%	99.9%
Percentage of Part-Time Employees		**0.1%**	0.1%	0.1%	0.1%	0.1%
Percentage of Employees in U.S.		**99.9%**	99.9%	99.9%	99.7%	99.7%
Percentage of Employees in Canada		**0.0%**	0.0%	0.0%	0.2%	0.2%
Percentage of Employees in Hong Kong		**0.1%**	0.1%	0.1%	0.1%	0.1%
DIVERSITY, EQUITY AND INCLUSION						
Number of Female Directors		**2**	2	2	2	2
Number of Male Directors		**8**	8	9	9	10
Number of Directors 30–50 Years Old		**0**	0	0	0	0
Number of Directors Over 50 Years Old		**10**	10	11	11	12
Number of Female Directors 30-50 Years Old		**0**	0	0	0	0
Number of Male Directors 30–50 Years Old		**0**	0	0	0	0
Number of Female Directors Over 50 Years Old		**2**	2	2	2	2
Number of Male Directors Over 50 Years Old		**8**	8	9	9	10
Total Number of Directors		**10**	10	11	11	12
Number of Female Executive Officers		**2**	2	1	1	1
Number of Male Executive Officers		**9**	9	9	10	9
Number of Executive Officers 30–50 Years Old		**0**	0	1	2	2
Number of Executive Officers Over 50 Years Old		**11**	11	9	9	8
Number of Female Executive Officers 30-50 Years Old		**0**	0	0	0	0
Number of Male Executive Officers 30–50 Years Old		**0**	0	1	2	2
Number of Female Executive Officers Over 50 Years Old		**2**	2	1	1	1
Number of Male Executive Officers Over 50 Years Old		**9**	9	8	8	7
Total Number of Executive Officers		**11**	11	10	11	10
Number of Female Officers		**6**	6	7	7	3
Number of Male Officers		**25**	25	22	23	21

	UNIT OF MEASURE	2023	2022	2021	2020	2019
Total Number of Officers		**31**	31	29	30	24
Number of Female Employees 18–24 Years Old		**-**	130	111	116	134
Number of Male Employees 18–24 Years Old		**-**	750	814	833	822
Number of Female Employees 25–34 Years Old		**-**	472	473	459	466
Number of Male Employees 25–34 Years Old		**-**	2,619	2,735	2,760	2,755
Number of Female Employees 35–44 Years Old		**-**	525	503	505	540
Number of Male Employees 35–44 Years Old		**-**	2,729	2,702	2,723	2,712
Number of Female Employees 45–54 Years Old		**-**	678	718	718	735
Number of Male Employees 45–54 Years Old		**-**	2,893	3,020	3,156	3,165
Number of Female Employees 55–64 Years Old		**-**	692	682	638	639
Number of Male Employees 55–64 Years Old		**-**	2,984	3,010	2,896	3,010
Number of Female Employees 65+ Years Old		**-**	97	75	64	68
Number of Male Employees 65+ Years Old		**-**	497	400	370	475
ENERGY						
Energy Consumption From Non-Renewable Fuel	million GJ	**30.1**	30.5	34.3	30.3	33.0
Energy Consumption From Renewable Fuel	million GJ	**70.7**	70.2	70.6	69.0	71.6
Energy Consumed From Purchased Electricity and Steam	million GJ	**9.5**	9.9	10.3	9.5	9.4
Energy Consumed From Self-Generated Hydroelectricity	million GJ	**0.2**	0.2	0.2	0.3	0.3
Total Energy Consumed	million GJ	**110.5**	110.7	115.4	109.1	114.3
EMISSIONS						
Scope 1 GHG Emissions	million metric tons CO_2e	**1.72**	1.81	1.95	1.77	1.91
Scope 2 GHG Emissions (location-based)	million metric tons CO_2e	**1.16**	1.07	1.06	1.10	1.20
Scope 2 GHG Emissions (market-based)	million metric tons CO_2e	**1.54**	1.43	1.62	1.38	-
Scope 3 GHG Emissions	million metric tons CO_2e	**2.29**	2.43	2.48	2.30	2.47
Total GHG Emissions (location-based)		**5.17**	5.31	5.49	5.17	5.58
Total GHG Emissions (market-based)		**5.55**	5.67	6.05	5.45	-
Biogenic CO_2 Emissions	million metric tons CO_2	**6.32**	6.28	6.32	6.16	6.40
Nitrogen Oxides (NO_x) Air Emissions	thousand metric tons	**5.7**	6.0	6.4	6.0	6.6
Sulfur Dioxide (SO_2) Air Emissions	thousand metric tons	**1.0**	2.1	2.4	2.1	1.5
Particulate Matter 10 (PM_{10}) Air Emissions	thousand metric tons	**1.0**	1.1	1.1	1.0	1.6
MATERIALS—WOOD FIBER SOURCING						
First-Use (virgin) Fiber Sourced	thousand green tons	**13,697**	13,731	13,986	13,933	15,021
Percent by Weight of First-Use Fiber Certified Sourced		**32%**	31%	32%	33%	30%

	UNIT OF MEASURE	2023	2022	2021	2020	2019
Percent by Weight of First-Use Fiber PEFC Certified Sourced		**26%**	25%	27%	28%	26%
Percent by Weight of First-Use Fiber FSC Certified Sourced		**6%**	6%	5%	5%	4%
Recovered Fiber Sourced	thousand tons	**1,026**	1,044	1,200	994	1,053
Market Pulp Sourced	thousand tons	**2**	2	53	18	6
PEFC Certified Product Sold, Corrugated	thousand tons	**326.4**	313.1	305.6	206.3	174.9
PEFC Certified Product Sold, White Paper	thousand tons	**18.8**	28.3	40.7	27.1	33.5
FSC Certified Product Sold, White Paper	thousand tons	**32.9**	37.9	66.8	72.2	116.5
Total Certified Product Sold	thousand tons	**378.1**	379.3	413.1	305.6	324.9
WATER AND EFFLUENTS						
Total Water Withdrawn	billion liters	**256.3**	261.2	274.9	270.8	273.9
Surface Water Withdrawn	billion liters	**183.0**	184.6	196.3	197.1	197.0
Percent of Surface Water for Process		**61.2%**	58.9%	59.9%	61.9%	59.4%
Percent of Surface Water for Cooling		**38.6%**	40.8%	39.9%	37.9%	40.4%
Percent of Surface Water for Potable		**0.2%**	0.3%	0.2%	0.2%	0.2%
Ground Water Withdrawn	billion liters	**70.7**	74.9	77.2	72.0	74.3
Percent of Ground Water for Process		**89.9%**	89.6%	89.0%	87.1%	83.8%
Percent of Ground Water for Cooling		**9.7%**	10.0%	10.7%	12.7%	15.9%
Percent of Ground Water for Potable		**0.3%**	0.4%	0.3%	0.2%	0.3%
Municipal Water Withdrawn	billion liters	**2.7**	1.7	1.4	1.7	2.6
Water Consumption	liters/ton of production	**1,310**	1,071	908	1,110	-
Total Water Discharges at Mills	billion liters	**255.5**	247.4	271.2	275.0	271.9
Percent of Water Discharges at Mills From Cooling		**23%**	26%	25%	24%	23%
Percent of Water Discharges at Mills From Receiving		**77%**	74%	75%	76%	77%
Biological Oxygen Demand (BOD)	lbs/ton of production	**1.29**	1.38	1.60	1.54	1.38
Total Suspended Solids (TSS)	lbs/ton of production	**2.51**	2.45	2.38	2.37	2.42
WASTE						
Process Waste Recycled or Beneficially Reused	thousand metric tons	**505.1**	625.1	616.0	583.9	600.4
Process Waste to Landfill	thousand metric tons	**297.1**	231.2	361.7	250.2	198.1
Hazardous Waste (disposed of by third party)		**de minimis**	de minimis	de minimis	de minimis	de minimis
Total Process Waste	thousand metric tons	**802.2**	856.3	977.7	834.1	808.8
COMMUNITIES						
Cash Donations	dollars, in thousands	**$2,906**	$1,609	$944	$985	$3,726

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 landowners to help them be effective stewards of forests.

Biodiversity ("biological diversity") The variety of life on earth or in a specific habitat or ecosystem.

Biogenic Carbon Carbon dioxide (CO_2) emissions related to the natural carbon cycle, as well as those resulting from the combustion, harvest, digestion, fermentation, decomposition or processing of biologically based material such as plants, trees and other form of biomass.

Biogenic Fuel Fuel generated through the consumption of biomass. Generates biogenic carbon as opposed to the use of fossil fuels, which generates carbon that has long been removed from the natural carbon cycle (thus introducing additional carbon to the present day).

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 Organic material that comes from plants and animals. In PCA's case, that would be pulping byproducts like black liquor solids and wood waste (bark, knots, etc.).

Biomass Energy Energy derived by combusting fuel that is developed from organic material. In PCA's case, pulping byproducts 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 evaporate water and to combust the remaining biogenic material, providing 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 Capture and Storage (CCS) A process that captures carbon dioxide emissions and either reuses them or stores them permanently so they will not enter the atmosphere.

Carbon Dioxide Equivalent (CO_2e) A metric to express the combined warming impact of various greenhouse gases (GHGs) in terms of carbon dioxide (CO_2). It is a standardized way to compare the global warming potential of different gases (e.g. methane and nitrous oxide) based on their ability to trap heat in the atmosphere over a specific time frame, typically 100 years.

Carbon Negative When more CO_2 is removed than emitted into the atmosphere.

Carbon Sink Something that stores more carbon than it emits, thus amounting to net removals of carbon from the atmosphere. The world's largest carbon sinks include the ocean, soil and forests.

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.

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 workdays 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.

Emissions-Free Energy Certificates (EFECs) Tradable, non-tangible energy certificates that certify and represent emission-free attributes of generating sources.

Fair Labor Standards Act (FLSA) U.S. 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).

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

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.

Forest Stewardship Council (FSC) An international sustainable forestry non-governmental organization, known for their voluntary standards on the topic. PCA has earned chain of custody and controlled wood certifications from FSC.

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

FSSC 22000 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 the U.S. and Europe. PCA's full-line packaging operations are predominantly certified to FSSC 22000.

Fugitive Emissions Emissions of gases released into the atmosphere accidently and unintentionally, e.g., by spillage or leakage, from pressurized equipment.

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 these 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.

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).

Life-altering injury An injury resulting in permanent or long-term impairment or loss of use of an internal organ, body function or body part.

Life-threatening injury An injury that if not immediately addressed is likely to lead to death.

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

Location-Based Scope 2 greenhouse gas emissions calculated based on the average emissions intensity of the region-wide electrical grid where a facility is located.

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

Market-Based Scope 2 greenhouse gas emissions calculated based on the specific electricity that a facility is buying.

Materiality Determination of that which is relevant or significant.

Methane A colorless, odorless, flammable gaseous hydrocarbon that when present in the atmosphere poses a greenhouse effect significantly more potent than carbon dioxide (CO_2). Methane is made up of four hydrogen atoms and one carbon atom and is expressed chemically as CH_4.

Metric Ton (Tonne) A unit of weight equal to 2,204 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.

Net-Zero Carbon Emissions Achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere.

NO_x 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.

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

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 U.S.

Other Indirect Emissions (Scope 3) Greenhouse gas emissions occurring in the value chain, upon 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.

Photosynthesis A process by which plants and other organisms transform sunlight, water and carbon dioxide to create oxygen and chemical energy in the form of sugar.

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 Energy Certificates (RECs) Tradable, non-tangible energy certificates that certify and represent energy generation from a renewable energy source.

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

Safe Quality Food (SQF) A food safety and quality program that produces food safety standards, several of which are benchmarked/accepted by the Global Food Safety Initiative. PCA Marshfield is certified to SQF Level 2.

Saline Aquifer A geological formation consisting of water-permeable rocks that are saturated with salt water, and therefore unfit for consumption.

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.

Serious Injury or Fatality (SIF) An injury resulting in a fatality or a life-threatening or life-altering injury often requiring hospitalization other than for observation or diagnostic testing, and results from a specific event at a work-related facility.

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, its presence can lead to the acidification of water and soil.

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

Sustainability Accounting Standards Board (SASB) Provides sustainability accounting standards. Controlled by a foundation, chaired by Michael Bloomberg from 2014–2018.

Sustainable Forestry Initiative (SFI) SFI is a North American non-governmental organization that supports sustainable forestry 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 who have suffered 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 from raw materials to finished/offered products. PCA is a vertically integrated packaging and paper company.

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 paper and packaging solutions and an outstanding service experience.

People • Customers • Trust

Packaging Corporation of America • 1 North Field Court, Lake Forest, Illinois 60045
(800) 456-4725 • www.packagingcorp.com