

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Graphic Packaging Holding Company (together with its subsidiaries, "Graphic Packaging" or the "Company") is committed to providing consumer packaging that makes a world of difference. The Company is a leading provider of paper-based packaging solutions for a wide variety of products to food, beverage, food service and other consumer products companies. The Company operates on a global basis, is one of the largest producers of folding cartons in the United States ("U.S.") and holds leading market positions in coated unbleached kraft paperboard ("CUK"), coated-recycled paperboard ("CRB") and solid bleached sulfate paperboard ("SBS"). The Company's customers include many of the world's most widely recognized companies and brands with prominent market positions in beverage, food, food service and other consumer products. The Company strives to provide its customers with packaging solutions designed to deliver marketing and performance benefits at a competitive cost by capitalizing on its low cost paperboard mills and carton manufacturing plants, its proprietary carton, container and packaging designs, and its commitment to quality and service.

Certain statements regarding the expectations of Graphic Packaging, including, but not limited to, the Company's plans or estimates with respect to energy use reductions, water usage and climate related events in this report constitute "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. Such statements are based on currently available operating, financial and competitive information and are subject to various risks and uncertainties that could cause actual results to differ materially from the Company's historical experience and its present expectations. These risks and uncertainties include, but are not limited to, the Company's ability to obtain permits and other administrative approvals, changes in revenue due to climate related concerns, and supply chain disruptions. Undue reliance should not be placed on such forward-looking statements, as such statements speak only as of the date on which they are made and the Company undertakes no obligation to update such statements, except as may be required by law. Additional information regarding these and other risks is contained in Part I, "Item 1A., Risk Factors" of the Company's 2018 Annual Report on Form 10-K, and in other filings with the Securities and Exchange Commission.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2018	December 31 2018	No	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

- Australia
- Brazil
- Canada
- France
- Germany
- Mexico
- Netherlands
- New Zealand
- Spain
- United Kingdom of Great Britain and Northern Ireland
- United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Financial control

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Elsewhere in the value chain only [Agriculture/Forestry/processing/manufacturing/Distribution only]
Processing/Manufacturing	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Distribution	Elsewhere in the value chain only [Agriculture/Forestry/processing/manufacturing/Distribution only]
Consumption	Yes [Consumption only]

C-AC0.6b/C-FB0.6b/C-PF0.6b

(C-AC0.6b/C-FB0.6b/C-PF0.6b) Why are emissions from agricultural/forestry activities undertaken on your own land not relevant to your current CDP climate change disclosure?

Row 1

Primary reason

Evaluated but judged to be unimportant

Please explain

Graphic Packaging owns and manages less than 2,500 Hectors of forest land. We estimate that our wood basket is represented by 5 million hectors. Therefore,our managed land is represented by 0.05% of the forest land required to service the Company' mills. Graphic Packaging has no material direct emissions associated with the agricultural/forestry activities undertaken to harvest the resources used at our facilities.

C-AC0.6f/C-FB0.6f/C-PF0.6f

(C-AC0.6f/C-FB0.6f/C-PF0.6f) Why are emissions from distribution activities within your direct operations not relevant to your current CDP climate change disclosure?

Row 1

Primary reason

Evaluated but judged to be unimportant

Please explain

Graphic Packaging has a small fleet of trucks servicing several UK facilities. We assessed this fleet in context to our total distribution network and since the Company does not have their own truck fleet for the operations outside of the UK, the emissions from distribution activities have a limited direct impact on our operations. However, Graphic Packaging does distribute our products with 3rd parties so the relative emissions are relevant to our supply chain.

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity

Timber

% of revenue dependent on this agricultural commodity

60-80%

Produced or sourced

Sourced

Please explain

Graphic Packaging manufactures paperboard and paperboard packaging. Over 70% of the paperboard and paperboard packaging utilize wood as a raw material.

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board-level committee	Our Board of Directors sets expectations in demonstrating our culture and guiding our purpose, values, sustainability and strategy relative to climate-change. Set forth in our Corporate Governance Guidelines, our Board is responsible for reviewing, approving and monitoring business strategies and financial performance and ensuring appropriate oversight is in place. The Board fulfils these responsibilities through practices including approval of the annual operating and strategic long-range plans, review of results against such plans and review and approval of significant corporate actions. In 2019, the Nominating and Corporate Governance Committee of the Board is responsible for the oversight and review of the Company's sustainability policy and practices toward climate-related issues. This includes a review of the Company's sustainability targets, public reporting and recommendations to the leadership. The Board has the ultimate responsibility to drive accountability and performance.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding risk management policies Reviewing and guiding business plans Monitoring implementation and performance of objectives 	The Company's Board of Directors Audit Committee oversees our integrated risk management framework that is designed to identify, prioritize, address, manage, monitor and communicate our top strategic, financial, operating, business, compliance, safety, reputational and other risks, including climate-related risks across the organization. The Nominating and Corporate Governance Committee of the Board of Directors is responsible for the oversight and review of the Company's sustainability policy and practices for consistency with its responsibility toward sustainability and climate-related risks and opportunities. This includes the review of the Company's sustainability targets and sustainability public reporting. The committee makes recommendations to the Board and management as it deems advisable. Effective in 2019, this committee will receive an update in the 4th quarter of each year. In addition, the Board receives regular updates on sustainability, social responsibility and public policy initiatives, as well as health, safety and environmental compliance matters, throughout the year. These key risks are also discussed in our Annual Report on Form 10-K.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (EVP, General Counsel & Secretary)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Graphic Packaging's Executive Vice President, General Counsel and Secretary is the highest management-level and C-Suite Officer within the organization to hold responsibility for climate-related issues below the Company's Board of Directors. She has direct oversight of the Vice President of Government Affairs and Sustainability, who is a member of the extended Executive Leadership Team. He is accountable for aligning the Company's Leadership Team on strategic decisions regarding mitigating climate risks, enhancing our reputation and positioning the Company for future success.

The Vice President of Government Affairs and Sustainability's background includes package engineering, purchasing, marketing and business development and is uniquely qualified to assess the impacts of climate change on the operations and sales of the Company. He is accountable for, developing strategy and executing the day-to-day requirements to meet the Company's sustainability goals. Further, he is uniquely qualified to engage with customers and suppliers to ensure comprehensive value chain execution of the sustainability program.

Climate-related issues are monitored on a formal monthly basis and in real time. A report on water, energy and GHG emissions is generated, which provides insight into the amount consumed or generated year to date, versus previous year and versus plan. The Company develops and executes countermeasures as appropriate based on monthly trends. The Company also monitors wood purchases monthly and these purchases as well as wood balances and availability are reviewed by a multi-stakeholder team. For example, in 2018 -2019, due to an extremely wet period, access to forests for harvesting activities were impossible and thus alternative wood sources, outside our traditional wood basket were identified. The countermeasures were identified in real time with the data from the monthly review.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Who is entitled to benefit from these incentives?

Corporate executive team

Types of incentives

Recognition (non-monetary)

Activity incentivized

Emissions reduction target

Comment

Targets are established for key environmental metrics. These environmental metrics are monitored and tied to financial and productivity metrics which also have monetary incentives associated with them. The metrics are monitored monthly in our Mill division as that business unit represents a significant percentage of the Graphic Packaging environmental profile.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	1	Decisions regarding climate related risks and opportunities are made in real time as risks are identified and assessed or as business requirements require. Management is responsible for identifying, mitigating, and managing risks across the organization. Risks or opportunities are identified using a variety of methods and tools.
Medium-term	1	3	Climate related risks and opportunities are identified, assessed, and planned for annually in two distinct processes. The annual enterprise strategic risk assessment process and during development of the long-range strategic business plan for the 1 – 3 year forward outlook. Any identified risk or opportunity is incorporated in the plans, including mitigation and monitoring strategies, planning and budgeting, and continued risk reporting, as appropriate. The CEO and Board oversee the sustainability office and the Audit Committee oversees the enterprise strategic risk management function, activities and reporting.
Long-term	3	5	As part of our long-range strategic planning any risks or opportunities that may be identified that are longer than 3 years will be assessed. The Board oversees the sustainability program, the Nominating and Corporate Governance Committee of the Board of Directors is responsible for the oversight and review of our sustainability program and the Audit Committee oversees the enterprise strategic risk management function, activities and reporting.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Graphic Packaging has developed a Risk Management System (RMS) with includes formal policies, procedures, and governance and defines and communicates the Company's policy regarding the management and oversight of risk. The RMS over-arching system assures the effective identification, analysis, prioritization and management of risks. Stakeholders including the Board, Audit Committee, Management and staff have oversight and execution of the RMS. Management is responsible for identifying, mitigating, and managing risks across the organization. The CEO and Board oversee the Sustainability office and the Audit Committee oversees the enterprise strategic risk management function, activities, and reporting. Key risks related to climate change are included in the Annual Report on Form 10-K.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

The Graphic Packaging Risk Management System includes formal policies and processes that document the formal process for identifying and assessing climate-related risks in an annual review with the leadership team and specialists, while informal reviews occur in real time with business. The Executive Leadership Team reviews priorities and results in workshops, staff meetings, and communicates these priorities and results electronically to multiple levels of leadership. The Audit Committee reviews the annual enterprise strategic risk assessment annually. This includes climate-related risks at operational levels, energy use, material supply, production, transportation, human resources, and weather/natural risks. Risks changes are also reported 3 times per year to the Audit Committee based on input from the risk owners and senior leadership.

The opportunities and risks are evaluated based on formal defined risk ranking criteria for significance of impact and likelihood of occurrence. Impact represents the potential effect of an event, and likelihood represents the possibility that a given event will occur, and both are measured on a scaled and weighted approach with clear definitions and ranking criteria. Risks are identified through a variety of people, process, methodologies and tools including but not limited to professional and trade related business associations and their publications and journals, input from C-Suite leadership, business leaders, other Company leadership, stakeholders, board of directors, and professional services firms, industry alerts, changes in market conditions, government agencies communications, employee communication, media, informal discussions, changes in financial results, focused workshops or scenario analysis, the Company Alert line and allegations reporting, and various conferences or round tables.

Additionally, active programs exist to monitor the Company's customer base and end-consumer responses to paperboard products and we seek to continue to improve the image and recyclable attributes of all of the Company's packaging including the Board of Directors for the Paper & Packaging Board to improve the image of paperboard products.

Graphic Packaging defines significant financial impact as a loss of key alliances and customers, sustained serious loss in market share or Company value with a long-term impact on reputation, litigation and/or regulatory/legislative response significance, and whether the event requires engagement of the Executive Committee and Board for all strategic risks including climate-related risks. These factors are weighed against: (a) The proportion of business units affected; (b) The size of the impact on those business units, and (c) The potential for shareholder or customer concern. A substantive financial impact of relatively high magnitude could occur because of a large change in one of these aspects, or small changes in all three combining to create a larger impact. For example, if a significant weather event were to negatively impact one of our mills with flooding and wind damage causing it to shut down for an extended time, the Company would evaluate the business affected and whether there is any exposure to a disruption in product inventory or ability to generate revenue. Forward looking metrics to define thresholds for the top strategic organizational risks are under-development. The Company has identified specific climate change related commitments that are included in our 2017 Sustainability and Social Responsibility Report and are focused on a reduction of the environmental impact of the organization. Our Vision 2025 goals include a 10% reduction in greenhouse gas emissions, nonrenewable energy use, and water discharge. Additional goals and implementation targets for waste diversion, safety, forest and wood-fiber certification, and social responsibility are included in our sustainability program.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Graphic Packaging has evaluated current regulation risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, energy, including natural gas, fuel oil, and electricity, represents a significant portion of our manufacturing costs. While we have entered into contracts designed to manage risks associated with future energy costs, we still face risks from current regulations that could have an impact on our operational costs. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Emerging regulation	Relevant, always included	Graphic Packaging has evaluated emerging regulation risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, energy, including natural gas, fuel oil, and electricity, represents a significant portion of our manufacturing costs. While we have entered into contracts designed to manage risks associated with future energy costs, we still face risks from emerging regulations that could have an impact on our operational costs. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Technology	Relevant, always included	Graphic Packaging has evaluated technology-related risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. Although a relatively small number of large competitors hold a significant portion of the paperboard packaging market, our business is subject to strong competition. As consumer's preference shift towards more sustainable packaging, we may face higher increases of competition. If we do not invest the right resources to ensure we're utilizing the most appropriate technologies to meet consumer's demand, this could have an adverse impact on our bottom line. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Legal	Relevant, always included	Graphic Packaging has evaluated legal risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, we are subject to a range of foreign, federal, state and local environmental regulations. We face risks both in terms of tangible costs from environmental litigation, as well as reputational risks. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Market	Relevant, always included	Graphic Packaging has evaluated market-related risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. As a paperboard manufacturer, we utilize a variety of raw materials in the production of our products. We face risks related to both the volatility of prices as well as availability of our raw materials. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Reputation	Relevant, always included	Graphic Packaging has evaluated reputational risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. Although a relatively small number of large competitors hold a significant portion of the paperboard packaging market, our business is subject to strong competition. As consumer's preference shift towards more sustainable packaging, we may face higher increases of competition. We continue to assess our customers' and consumer's feedback on an ongoing basis to ensure that we are adapting to the market. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Acute physical	Relevant, always included	Graphic Packaging has evaluated acute physical risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, although we take appropriate measures to minimize the risk and effect of material disruptions to the business conducted at our facilities, climate-related natural disasters such as hurricanes, tornadoes, floods and fires can impact production, increase our manufacturing costs and impact our customer's ability to operate. The magnitude of this risk has been evaluated and assessed to have potential high impact, but low probability thus has limited significant in relation to other business-related risks.
Chronic physical	Relevant, always included	Graphic Packaging has evaluated chronic physical risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, although we take appropriate measures to minimize the risk and effect of material disruptions to the business conducted at our facilities, climate-related natural disasters such as floods can impact production, increase our manufacturing costs and impact our customer's ability to operate. The magnitude of this risk has been evaluated and assessed to have potential high impact, but low probability thus has limited significant in relation to other business-related risks.
Upstream	Relevant, always included	Graphic Packaging has evaluated upstream risks related to climate change to always be included in our risk assessments. We rely on our suppliers to provide materials for our products. Their ability to provide goods and services to us can be impacted by physical climate risks such as extreme weather events. The magnitude of this risk has been evaluated and assessed to be insignificant in relation to other business-related risks.
Downstream	Relevant, always included	Graphic Packaging has evaluated acute physical risks related to climate change to always be included in our risk assessments. We continue to evaluate these risks as part of our annual formal risk assessments as well as through ongoing informal reviews that occur as part of normal business practices. For example, although we take appropriate measures to minimize the risk and effect of material disruptions to the business conducted at our facilities, climate-related natural disasters such as hurricanes, tornadoes, floods and fires can impact production, increase our manufacturing costs and impact our customer's ability to operate. The magnitude of this risk has been evaluated and assessed to have potential high impact, but low probability thus has limited significant in relation to other business-related risks. We pride ourselves on innovation and invest significantly on our efforts to provide our customers with more sustainable, renewable, and recyclable wood-fiber based packaging solutions.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

All strategic business risks are assigned ownership at two levels within the C- Suite and upper management responsible for performing the monitoring, activities, or mitigation steps. Detailed action plans are documented and tracked to performance and closure. The plans are updated three times per year with enterprise Strategic Business Risk Management/Internal Audit.

The Board receives updates on sustainability, social responsibility health, safety and environmental compliance matters, on a continuing basis. Overall responsibility for our sustainability and social responsibility strategy is with our executive leadership team. The Vice President of Government Affairs and Sustainability provides the strategic direction. This individual is a member of the extended executive leadership team and reports regularly on key programs to the CEO and Board of Directors. Our Vice President of Health, Safety and Environmental (HS&E) reports to our CEO on significant projects and compliance matters. The General Counsel also regularly provides HS&E and sustainability highlights to the Board as well as presents an annual compliance report detailing our program as well as any significant developments. Beginning in 2019 the Nominating and Corporate Governance Committee will receive an annual update of the program and provide feedback as part of that committee's oversight responsibilities.

We have specific teams that meet quarterly to support and play a key role in risk management related to climate change and are assigned responsibilities for developing corporate policy and regulatory positions. Our HS&E Steering Committee discusses sustainability matters every 60 days and report their progress to the Board of Directors. Our Global Sustainability and Social Steering Committee is a cross-functional group that includes leaders of Sustainability, Legal and Human Resources, as well as site and facility managers, from three key regions and promotes responsibility globally. Our North America Social Responsibility Leadership team reviews our sustainability and social responsibilities processes and reports. Our Compliance Committee is a cross-functional group that develops, implements and provides guidance on effective compliance and ethics program and promote an organizational culture that encourages law abiding and ethical conduct, and assesses risks and receives and reviews reports on legal and regulatory changes, policies, training, auditing and monitoring, issues and allegations, audits and monitoring activities, and related organizational responses to these activities. Our Certification Committee is a cross-functional group that receives and reviews the annual public company filings that include the risk related disclosures.

In addition, we evaluate our programs and monitor progress towards our commitments to achieve our goals including our Sustainability Vision 2025 through annual Board Sustainability report updates, Compliance reports, Sustainability Performance reviews, and a CEO Scorecard. Our CEO and our General Counsel report to the Board on sustainability and social responsibility and HS&E matters.

Our processes are designed to share our environmental profile with external stakeholders. We track greenhouse gas emissions, energy consumption, wood-fiber sourcing, water use and supply chain. Our data is shared with customers, investors and other stakeholders.

Graphic Packaging currently utilizes a formal risk assessment process to help identify and mitigate risks associated to physical climate-related impacts. For example, we assess appropriate levels of property insurance to minimize financial implications related to damages from flooding and other natural disasters.

Graphic Packaging understands that we could face potential risks related to GHG emissions. In order to mitigate these risks, we have sought to utilize energy as efficiently as possible within our operations. For example, we invest capital and resources on an annual basis in a variety of energy efficiency initiatives across our operations so that we are well positioned if there are market and / or cost implications related to GHG emissions.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact

Reduced revenues from lower sales/output

Company- specific description

Graphic's operations face climate-related physical risks related to cyclones and increased flooding. If the severity of extreme weather events increases and results in any of our facilities becoming inoperable it could have a direct impact on our production, sales and / or costs. For example, sites located in Louisiana, California, Missouri, and North Carolina have experienced flooding events in the past few years, which has caused us to take measures to ensure we're mitigating property damages and minimizing production disruptions. In particular, one of the wood baskets, which Graphic Packaging relies upon to source wood was negatively impacted by excessive rain. Graphic Packaging had to shift sourcing for raw materials to another wood basket outside our traditional woodbasket. Additionally, while wild fires in California did not affect regional facilities, some local Graphic Packaging employees' homes were damaged. This natural disaster resulted in shifts in employee availability, schedules and some operations while employees regained security for their families. Insurance policies are in place to mitigate potential loss or damage and recovery time. Crisis management procedures are in place and have been tested. Multiple sites are qualified to produce products and allow manufacturing redundancy. Reliability Center Maintenance teams are in place to monitor and perform maintenance over assets. Pumps and other flood mitigating controls are at the ready to prevent or limit damages. Inventory of critical spare parts is managed based on lead time. Back-up plans are in place in the event resources cannot get to the work site. In addition, we regularly review physical controls and additional insurance at these locations.

Time horizon

Current

Likelihood

Unlikely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Financial implications from climate related events are difficult to quantify due to unforeseen variables that can impact the overall significance of these risks and as such, the impact has not been quantified financially. Although viewed as unlikely, financial implications could impact our overall costs of operations as well as our capital expenses.

Management method

It is expected that financial impacts related to extreme weather events are managed in an effective manner so that the company performance is not severely impacted. We continue to manage this through our risk management process that seeks to ensure that the appropriate insurance is maintained, and proactive actions are taken to minimize any impacts. We have insurance in place where needed and perform an annual insurance assessment and review that is reported up to the Audit Committee. Recently, this review resulted in the purchase of additional insurance for one of our manufacturing facilities. In addition, to create a water dam around key facilities, temporary barriers are available for use as appropriate. Reliability experts and maintenance personnel are staffed and at the ready if a crisis occurs. Critical parts are maintained to ensure production can be commenced as quick as possible. Anti-flood protection devices such as pumps are stored and ready to reduce the impact of water. Several Graphic Packaging plants have experienced a flood event and each event was addressed effectively with redundant capacity and proactive measures where possible.

Cost of management

50000

Comment

Graphic Packaging has invested in flood mitigation measures as appropriate and the risk management program is monitored on an annual basis. The cost of administering our risk management program is less than \$50,000.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Market: Increased cost of raw materials

Type of financial impact

Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment)

Company- specific description

The Company's financial results could be adversely impacted if there are significant increases in prices for raw materials, energy, transportation and other necessary supplies, and Graphic Packaging is unable to raise prices, or improve productivity to reduce costs. Price increases of raw materials such as secondary fiber, petroleum-based materials, energy, wood, etc. that are imperative to supporting Graphic Packaging's manufacturing, may be impacted by climate-related events. If we cannot successfully pass increased costs of these raw materials to the market or implement cost savings, we may not be able to compete successfully against other manufacturers.

Time horizon

Current

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Limitations on the availability of, and increases in, the costs of raw materials, including secondary fiber, petroleum-based materials, energy, wood, transportation and other necessary goods and services, could have an adverse effect on the company's financial results. Because negotiated sales contracts and the market largely determine the pricing for its products, the company is at times limited in its ability to raise prices and pass through to its customers any inflationary or other cost increases that the company may incur. While difficult to quantify, any impacts to the company that are not offset by contract negotiations or sourcing actions are anticipated to not exceed 1%

of net revenue.

Management method

Graphic Packaging uses productivity improvements to reduce costs of raw materials and offset inflation. These include global continuous improvement initiatives that use statistical process control to help design and manage many types of activities, including production and maintenance. The company has a structured process to allocate the necessary resources and engage in the appropriate projects to generate financial benefits.

Cost of management

0

Comment

Costs of management are considered part of normal business practices. Additionally, Graphic Packaging has a proprietary process in terms of managing other raw material costs.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Exposure to litigation

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

Graphic Packaging is subject to a broad range of foreign, federal, state and local environmental, health and safety laws and regulations, including those governing discharges to air, soil and water, the management, treatment and disposal of hazardous substances, solid waste and hazardous wastes, the investigation and remediation of contamination resulting from historical site operations and releases of hazardous substances, and the health and safety of employees. Compliance initiatives could result in significant costs, which could negatively impact our consolidated financial position, results of operations or cash flows. Any failure to comply with environmental or health and safety laws and regulations or any permits and authorizations required thereunder could subject Graphic Packaging to fines, corrective action or other sanctions. Some of our current and former facilities are the subject of environmental investigations and remediations resulting from historic operations and the release of hazardous substances or other constituents. Some current and former facilities have a history of industrial usage for which investigation and remediation obligations may be imposed in the future or for which indemnification claims may be asserted against our organization. Also, closures or sales of facilities may necessitate investigation and may result in remediation activities at those facilities. The company is also subject to regulation on some of our packaging products. For example, currently proposed regulation banning or placing fees on single use packaging, such as French fry scoops, paper cups, and food service trays could impact sales.

Time horizon

Current

Likelihood

More likely than not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Graphic Packaging has established reserves for those facilities or issues where there is a potential liability, and the costs are reasonably estimable. We believe that the amounts accrued for its loss contingencies, and the reasonably possible loss beyond the amounts accrued, are not material to our consolidated financial position, results of operations or cash flows. We cannot estimate with certainty other future compliance, investigation or remediation costs. Some costs relating to historic usage that we consider to be reasonably possible of resulting in liability are not quantifiable at this time. The potential impacts, if any, are included in the Annual Report on Form 10k.

Management method

Graphic Packaging has established a process that seeks to monitor environmental issues at each of its facilities, as well as regulatory developments. We also revise our accruals, estimates and disclosures relating to past, present and future operations, as additional information is obtained to ensure that we have the appropriate mitigation measures in place. Accounting and legal review and all litigation and legal matters have been considered to ensure financial impact is properly included in the financial statements and disclosures. The Legal department monitors matters very closing and engages outside experts as needed to ensure exposure is understood and probability is appropriate.

Cost of management

0

Comment

Costs of management are included in the ongoing operations of Graphic Packaging.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**Identifier**

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

Sustainability represents one of the strongest trends in the packaging industry and the Company focuses on developing sustainable and eco-friendly manufacturing processes and products. The Company's strategy is to combine sustainability with innovation to create new packaging solutions for its customers. The Company is positioned well in the market as a wood fiber-based packaging company. We aspire to create the ultimate package that is made from renewable materials, with renewable energy that is recyclable or compostable. We consider the full life cycle of the package and product that it protects. With each innovation challenge, we assess the current package's position on the Package Sustainability Continuum and identify areas where an innovative approach will move that package closer to our aspirational goal. Our innovation efforts center on new wood-fiber based packaging solutions that we believe are more sustainable, renewable, and recyclable than existing alternatives. Our efforts offer enhanced convenience features for consumer and brand building opportunities for our customers. For example, the European Union voted to ban single-use plastic packaging to eliminate ocean pollution. The 10 products affected include plates, food and beverage containers, cutlery, straws, and stirrers and this regulation will take effect in 2021. This push provides several opportunities for the Company. Our customers can replace their Styrofoam cups with a paper cup that is recyclable or compostable which Graphic Packaging manufactures. Not only do the paper cups from Graphic Packaging have positive "end of life" outcomes, the trees used to make the paper come from sustainably managed forests that are independently certified to the Sustainable Forestry Initiative® (SFI®) standard. SFI® certification promotes responsible forestry practices. Further, approximately 66% of the energy used to make the Company's paperboard and paperboard cartons comes from renewable biomass. In addition, the company has a paper-based Keel clip that is a recyclable/compostable new product to replace plastic rings for beverage cans.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Sustainability represents one of the strongest trends in the packaging industry and we continue to focus on developing more sustainable and eco-friendly manufacturing processes and products. Graphic Packaging's strategy is to combine sustainability with innovation to create new packaging solutions for its customers. We anticipate that investments in sustainable innovation will have a positive impact on revenue and may represent up to 1% of revenue.

Strategy to realize opportunity

Graphic Packaging is committed to sustainable innovation and has allocated investments both in terms of research and development as well as capital allocation to ensure that we have the appropriate resources to develop packaging solutions that will improve environmental metrics. We also keep abreast of consumer expectations to ensure that we're meeting preferences as they continue to shift towards more sustainable packaging. As detailed in our 10k, our 2018 R&D investment is \$8.7 million.

Cost to realize opportunity

8700000

Comment

Graphic Packaging continues to invest in R&D and innovation across the world which is considered part of normal business practices.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Type of financial impact

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

Company-specific description

Graphic Packaging manufactures and sells paperboard packaging. This packaging is made from renewable materials, tree fibers, and virtually all is recyclable. A significant majority of the paperboard packaging is made using renewable energy. When comparing the environmental profile of paperboard packaging with other packaging formats, like plastic, glass, metal, paperboard packaging can present a lower environmental profile including lower GHG emissions when using ISO Life Cycle assessment methodologies. We understand that there are shifting consumer preferences in terms of more sustainable packaging and have invested the appropriate resources to ensure that we're able to maintain a competitive position to meet those expectations. We invest in research for new products and substrates to stay aligned with consumer preferences. Growth through acquisition is a key strategy to align with our core product categories and meet customer demands.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Consumer interest in environmentally responsible products and packaging that are made from renewable materials, recycled materials, and are recyclable are preferred by the marketplace. Our overall sales and revenues can be directly impacted by these shifting consumer preferences.

Strategy to realize opportunity

Graphic Packaging's product portfolio has been strategically focused on products made from renewable materials that are virtually all recyclable. We continue to assess consumer preferences on an ongoing basis.

Cost to realize opportunity

0

Comment

The company's business model is based on manufacturing and marketing of products that are made from renewable material and are recyclable. Thus, the total operational costs would be considered the cost of management.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Supply Chain

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

"Graphic Packaging manufactures and sells paperboard packaging. This packaging is made from renewable materials, tree fibers, and virtually all is recyclable. A significant majority of the paperboard packaging is made using renewable energy. When comparing the environmental profile of paperboard packaging with other packaging formats, like plastic, glass, metal, paperboard packaging can present a lower environmental profile including lower GHG emissions when using ISO Life Cycle assessment methodologies. We understand that there are shifting consumer preferences in terms of more sustainable packaging and have invested the appropriate resources to ensure that we maintain a competitive position to meet those expectations. We identify and fill new consumer preferences and opportunities by understanding the need and developing products to meet changing consumer preferences. We have invested in research for new products and substrates to stay aligned with consumer preferences. We have grown through acquisition to align with core product categories and meet customer demands. We have invested in the current asset base and supply chain / board supply to ensure we are positioned to capture paper product growth opportunities and have the ability to meet increased volume. We have five Global Innovation Centers dedicated to facilitating our innovation and design process. They are strategically located in Atlanta, Georgia; Chicago, Illinois; Sneek, Netherlands; and Bardon, and Bristol England. This is where creative thinking becomes an inspired design that showcases our customers' products and accelerates their brands' performances. Each Innovation Center unites a wealth of packaging know-how with a world of fresh design ideas, leading technologies and new materials. With packaging samples from around the world and state-of-the-art collaboration tools, our facilities allow us to work seamlessly with design, machinery and manufacturing to ensure new designs are feasible in the marketplace. We have machinery and packaging solutions that address both current and evolving consumer buying habits that are shaping the global beverage industry."

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

While the impact has not been quantified financially, Graphic Packaging deploys over \$300M each year in capital investments. Capital spending is optimized by deploying capital to improve our operations, reduce costs, and reduce our environmental footprint.

Strategy to realize opportunity

As a public company, Graphic Packaging applies financial rigor to capital investments to understand the return on investment. These calculations can include productivity, efficiency, quality impacts, and environmental impacts. Capital investments are reviewed and prioritized based on ROI, impact to the company's operations and quality and environmental impacts. These costs are incorporated into our normal operating costs. The company does invest over \$300 million each year in our capital investment strategy.

Cost to realize opportunity

300000000

Comment

Capital investments are reviewed and prioritized based on ROI, impact to the company's operations and quality and environmental impacts. These costs are incorporated into our normal operating costs. The company does invest over \$300 million each year in our capital investment strategy.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	Graphic Packaging has determined that our products and services have been impacted based on our evaluation of climate-related risks and opportunities. Graphic Packaging manufactures and sells paperboard packaging. This packaging is made from renewable materials, tree fibers, and virtually all is recyclable. A significant majority of the paperboard packaging is made using renewable energy. When comparing the environmental profile of paperboard packaging with other packaging formats, like plastic, glass, metal, paperboard packaging can present a lower environmental profile including lower GHG emissions when using ISO Life Cycle assessment methodologies. Additionally, we understand that there are reputation risks based on consumer preferences for packaging made from renewable materials. There has been increasing evidence of this shift through public statements made by buyers of packaging, including food, beverage and foodservice companies. Therefore, we have included appropriate planning within our business strategy for both the procurement of renewable materials and appropriate integration into our manufacturing processes so that we're able to ensure our products and services continue to meet customer expectations. The magnitude of this impact is considered to be significant in relation to our overall organization and bottom line.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Graphic Packaging has determined that our supply chain and / or value chain have been impacted for some suppliers, facilities or product lines based on our evaluation of climate-related risks and opportunities. For example, we understand that there are limitations on the availability of, and increases in, the costs of raw materials, including secondary fiber, petroleum-based materials, energy, wood, transportation and other necessary goods and services which could impact the reliability of our supply chain. Because negotiated sales contracts and the market largely determine the pricing for its products, the Company is at times limited in its ability to raise prices and pass through to its customers any inflationary or other cost increases that the Company may incur. Therefore, we have established processes that enable us to work closely with our suppliers to ensure that we're being proactive in identifying any risks that could impact our supply chain and mitigating risks where possible. The magnitude of this impact is considered to be relatively insignificant in relation to our overall organization and bottom line.
Adaptation and mitigation activities	Impacted	Graphic Packaging has many individuals, teams, and management committees that plan, perform, and monitor results of adaption and mitigation activities. The culture is extremely focused on continuous improvements and accountability. Risks and opportunities are document in our annual planning procedures and mapped to progress and final results including financial position. The results are communicated to either the full Board or the Audit Committee and Senior management.
Investment in R&D	Impacted	Graphic Packaging has determined that investment in R&D has been impacted based on our evaluation of climate-related risks and opportunities. We understand that there are reputation risks based on consumer preferences for packaging made from renewable materials. There have been increasing evidence of this shift through public statements made by buyers of packaging, including food, beverage and foodservice companies. Therefore, Graphic Packaging continues to engage in research and development activities that seek to identify technologies that would allow for alternative packaging for liquid and food products to replace plastic. Additionally, we seek to invest resources for the research and development of any efficient technologies that could be utilized in our manufacturing processes to be more efficient. The magnitude of this impact is related to the innovation resource allocation to developing new technologies in paperboard packaging to replace plastic coatings for improved recyclability and developing new solutions to replace plastic packaging.
Operations	Impacted	Graphic Packaging has determined that our operations have been impacted based on our evaluation of climate-related risks and opportunities. Graphic Packaging manufactures and sell paperboard packaging. This packaging is made from renewable materials, tree fibers, and virtually all is recyclable. A significant majority of the paperboard packaging is made using renewable energy. When comparing the environmental profile of paperboard packaging with other packaging formats, like plastic, glass, metal, paperboard packaging can present a lower environmental profile including lower GHG emissions when using ISO Life Cycle assessment methodologies. Additionally, we understand that there are reputation risks based on consumer preferences for packaging made from renewable materials. There has been increasing evidence of this shift through public statements made by buyers of packaging, including food, beverage and foodservice companies. Additionally, we understand that our operations could be adversely impacted by an increase in the severity of natural disasters that are a result of climate change. This could be impacted through a loss in revenues based on less products produced as well as costs for facility damages. Therefore, we have included appropriate planning within our business strategy to include these climate-related risks and opportunities into our operational planning. The magnitude of this impact is considered to be significant in relation to our overall organization and bottom line.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	Graphic Packaging has evaluated that revenues are impacted by climate-related risks and opportunities in relation to our organization's business, strategy, and financial planning. For example, our Company's research and development team works directly with its sales, marketing and consumer insights personnel to understand long-term consumer and retailer trends and create relevant new packaging. These innovative solutions provide customers with differentiated packaging to meet customer needs. The Company's development efforts include, but are not limited to, extending the shelf life of customers' products; reducing production and waste costs; enhancing the heat-managing characteristics of food packaging; improving the sturdiness and compression strength of packaging to meet store display needs; and refining packaging appearance through new printing techniques and materials. Sustainability represents one of the strongest trends in the packaging industry and the Company focuses on developing more sustainable and eco-friendly manufacturing processes and products. The overall magnitude of our impact is evaluated to be significant in relation to our overall organization's financial planning and bottom line.
Operating costs	Impacted	Graphic Packaging has evaluated that operating costs are impacted by climate-related risks and opportunities in relation to our organization's business, strategy, and financial planning. For example, we work alongside our research and development teams, marketing consumer insight personnel, and others to ensure that we have a firm understanding of forecasted growth or increased demand for our fiber-based solutions. Sustainability represents one of the strongest trends in the packaging industry and the Company focuses on developing more sustainable and eco-friendly manufacturing processes and products. If there is a projected increase in demand for our sustainable packaging products, this will impact our financial planning for operational costs, both in terms of manufacturing operational costs as well as our procurement efforts. The overall magnitude of our impact is evaluated to be significant in relation to our overall organization's financial planning and bottom line.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	Graphic Packaging has evaluated that capital expenditures / capital allocation are impacted by climate-related risks and opportunities in relation to our organization's business, strategy, and financial planning. Graphic Packaging is a paperboard and paperboard products manufacturer and operates in a highly capital-intensive environment. Capital is allocated to improve efficiencies, improve quality, and minimize environmental impacts. Capital spending is optimized by deploying capital to improve our operations, reduce costs and reduce our environmental profile and associated climate-related risks. For example, our investments in curtain coaters not only provide a higher quality look to our products but also reduce the overall energy utilized in our operations. Projects such as these and others are all included as part of our financial planning in relation to our capital allocation process. The overall magnitude of our impact is evaluated to be relatively significant in relation to our overall organization's financial planning and bottom line.
Acquisitions and divestments	Impacted	Graphic Packaging makes considerable investments in acquisitions aligned to our core competencies and integrated business model. The majority of our paperboard production is used by our carton manufacturing plants. All acquisitions go through a rigorous approval process and must fit our business strategy and model.
Access to capital	Not yet impacted	GPI has not yet experienced a change in its access to capital due to climate change based on the currently identified risks and opportunities. This may change in medium to long-term pending changes in the regulatory environment, consumer market, which we are continuing to evaluate.
Assets	Impacted	Graphic Packaging has a well-defined process to procure, assess, and dispose of assets. Assets are purchased when necessary to support sustainability initiatives such as critical parts, pumps, or innovative equipment. They are reviewed carefully and both internal audit and external auditors review assets of the company on a risk adjusted basis. For example, tangible assets owned by the company are carefully tagged and valued. The tags and values must be reviewed by accounting and are audited regularly by internal audit.
Liabilities	Impacted	Graphic Packaging has a well-defined process to incur, receive, and track liabilities. The company has strong procurement practices including vendor additions and changes, purchase order, and management and receiving procedures. These procedures are monitored and reviewed by accounting and are reviewed carefully and both internal audit and external auditors review assets of the company on a risk adjusted basis. For example, additional flood insurance has been purchased as a result of careful procurement practices which involved a cross-functional team across many levels of the organization, including input from our Audit Committee.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

No, but we anticipate doing so in the next two years

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

No, we do not have a low-carbon transition plan

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i. At Graphic Packaging, we utilize a strategic planning process that helps shape our overall business objectives and strategy. As part of this annual process, climate change related risks and opportunities are also taken into consideration. Our long-range plan assesses these risks and opportunities over a five-year time horizon with specific financial modeling over the initial three years. As part of our long-range planning we seek to take the following into consideration as well as integrate our long range and short-range sustainability goals of GHG and Fossil Fuel energy reduction and water conservation.

- Graphic Packaging's environmental impact locally and globally
- Market-related concerns such as quality and quantity of raw material sources
- Utilization of renewable materials
- Adherence to compliance-related certification programs
- Capital investment opportunities for both operations and logistics

As a result of our long-range planning process, our assessment of climate-related risks and opportunities have influenced the following key areas within our business:

- Graphic Packaging's Environmental Impact – we have integrated GHG and fossil fuel energy reduction and water conservation into our operating plans through manufacturing optimization and process improvement programs. The use of renewable biomass energy represents over 65% of our energy. The biomass is a byproduct from the harvesting and processing of our core raw material, trees. Graphic Packaging's manufacturing footprint has also been optimized through consolidation of inefficient facilities into modern efficient facilities. In 2018, we consolidated two carton manufacturing plants in Monroe, LA into one modern facility located in the same city.
- Packaging portfolio – we've sought to position our products to address our assessment of market trends related to key areas such as environmentally responsible packaging. Our product portfolio consists of packaging products that are made from virtually all renewable materials and are recyclable. For example, packaging products that represent over 90% of the Company's revenue are recyclable. They can be collected and processed into a new product.
 - Innovation and product development – There are two primary areas where efforts are centered; next generation barrier coatings and replacing plastic packaging with a paperboard solution. Efforts regarding next generation barrier coatings are concentrated on removing fossil fuel-based plastics with renewable technologies. These technologies have optimal end-of-life scenarios. With the heightened awareness of plastic pollution, we are working with customers to qualify paperboard packaging solutions that are recyclable and made from renewable materials.
- Procurement strategy – we currently utilize raw materials such as wood in our production processes. We've sought to understand potential changes in supply and demand based on climate-related events or other reactions related to climate-change by working with an external party to model scenarios. For example, climate change has negatively impacted the boreal forest in Canada. Foresters have relocated to the southern U.S. increasing demand for wood in our wood basket. Graphic Packaging continues to collaborate with local tree farms to ensure sustainable forest management.

Graphic Packaging's risk assessment process is designed to be holistic in nature and seeks to quantify impacts to our operations such as federal, state, and local government regulations, changes in customer behaviors and potential for increased energy costs. The outcomes of our risk assessments help inform our overall business strategy and lead to formal action plans a deemed necessary. For example, because Graphic Packaging was subject to cap and trade programs in certain areas of business, we've sought to understand potential risk implications if a carbon tax or cap and trade legislation were implemented in other locations. Additionally, we understand that as energy costs rise, there's inherently an increased cost to do business which can put us at a competitive disadvantage. As part of Graphic Packaging's overall business strategy, it was determined there was need to quantify and assess progress to reduce our carbon emissions footprint in part to mitigate these risks. We have successfully established and met our past GHG reduction goals and worked with Graphic Packaging's broader internal teams to appropriately set second-generation emissions reduction targets to continue to meet our strategic business goals.

ii. & iii. The most substantial business decision that was made during the reporting year and prior years that was influenced by climate change was the decision to implement four curtain coaters within our CUK mills. We successfully implemented one curtain coater in 2018, the second one, and will finalize implementation of two other curtain coaters in 2019-2021 time-frame. This business decision was made in part due to the projected emissions reductions once implemented. Once the project is complete, we have estimated that 80,000 metric tons CO2 would be reduced on an annual basis from the 4 curtain coaters that will have been put into service.

iv. Specific aspects of climate change that have influenced Graphic Packaging's business strategy have been primarily focused on potential regulatory changes that could have a financial impact on how we do business as well as availability of natural resources such as water that is used in our manufacturing processes. Understanding both the probability and level of significance these aspects of climate change pose to Graphic Packaging is determined as part of our overall risk process which directly informs our business strategy as well as corresponding short term and long-term action plans.

vii. As we continue to take a proactive approach both in terms of managing risks and capitalizing on opportunities, it positively positions Graphic Packaging to better manage both our resources and operations in a more efficient and cost-effective manner. For example, by setting and meeting an emissions reduction target, this directly lowered operational costs for Graphic Packaging, ensuring that our packaging solutions are competitive. Further, the GHG reductions directly impact our customers products as the package that is purchased from Graphic Packaging continues to have a reduced carbon profile. Additionally, as we assess how regulations and other factors affected by climate change will impact our operations in the future, we're positioning ourselves to be more adaptable and better positioned for future costs that could be incurred.

C3.1g

(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?

i. While Graphic Packaging has utilized scenario-based analysis to help evaluate climate-related risks as part of their overall enterprise strategic risk management process, this is currently not being done on a recurring or regular basis. As part of Graphic's strategic planning process, we have chosen to prioritize higher risks due to raw material issues and market place concerns regarding one of our major product lines. Wood purchases that occurred in late 2018 and 2019 required significant actions to mitigate supply issues. Due to an extremely wet period, access to forests that were identified for harvest was impossible and thus alternative wood sources, outside our traditional wood basket were identified. The countermeasures were identified in real time with the data from our monthly review. Visibility to the issues in real time are important and a cross functional team was established to provide visibility and react appropriately. While we do utilize a five year forward view with associated financial modeling related to these topics of concern, we haven't fully integrated climate-related scenario analysis as part of our overall business strategy.

ii. As we start assessing risks and opportunities in further depth, we will seek to include climate-related scenario analysis as part of our enterprise strategic risk management process that will routinely inform our business strategy. The priority level and complexity of a risk or opportunity will be evaluated and will determine the appropriate time and level of depth that climate-related scenario analysis will be leveraged.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Both absolute and intensity targets

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

Targeted % reduction from base year

10

Base year

2016

Start year

2017

Base year emissions covered by target (metric tons CO2e)

1979322

Target year

2025

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

0

Target status

Underway

Please explain

Graphic Packaging reported this target to CDP in 2018 and is reporting progress against the same target in 2019. The 2018, the increase in Graphic Packaging's scope 1 emissions caused the total emissions to exceed the baseline, and as such 0% of the target is currently achieved.

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

Targeted % reduction from base year

10

Metric

Metric tons CO2e per unit revenue

Base year

2016

Start year

2017

Normalized base year emissions covered by target (metric tons CO2e)

1979322

Target year

2025

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

0

Target status

Underway

Please explain

Graphic Packaging reported this target to CDP in 2018 and is reporting progress against the same target in 2019. The 2018, the increase in Graphic Packaging's scope 1 emissions caused the total emissions to exceed the baseline, and as such 0% of the target is currently achieved.

% change anticipated in absolute Scope 1+2 emissions

10

% change anticipated in absolute Scope 3 emissions

0

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	200	500000
To be implemented*	116	290000
Implementation commenced*	28	70000
Implemented*	30	75000
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative type

Process emissions reductions

Description of initiative

New equipment

Estimated annual CO2e savings (metric tonnes CO2e)

80000

Scope

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)**Investment required (unit currency – as specified in C0.4)**

395000000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Our investment required, \$395M, reflects the total investment for all of our capital projects across the Graphic Packaging portfolio in 2018, which increased from \$220M in 2017. The paperboard mills at Graphic Packaging represent 96% of our carbon profile and thus Graphic Packaging focuses on them as a priority for reducing GHG.

Initiative type

Process emissions reductions

Description of initiative

Other, please specify (Water Meter Upgrades)

Estimated annual CO2e savings (metric tonnes CO2e)

4000

Scope

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)**Investment required (unit currency – as specified in C0.4)**

395000000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Our investment required, \$395M, reflects the total investment for all of our capital projects across the Graphic Packaging portfolio in 2018, which increased from \$220M in 2017. The paperboard mills at Graphic Packaging represent 96% of our carbon profile and thus Graphic Packaging focuses on them as a priority for reducing GHG.

Initiative type

Energy efficiency: Processes

Description of initiative

Other, please specify (Water Strainer)

Estimated annual CO2e savings (metric tonnes CO2e)

490

Scope

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)**Investment required (unit currency – as specified in C0.4)**

395000000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Our investment required, \$395M, reflects the total investment for all of our capital projects across the Graphic Packaging portfolio in 2018, which increased from \$220M in 2017. The paperboard mills at Graphic Packaging represent 96% of our carbon profile and thus Graphic Packaging focuses on them as a priority for reducing GHG.

Initiative type

Energy efficiency: Processes

Description of initiative

Other, please specify (Water Surge Tank)

Estimated annual CO2e savings (metric tonnes CO2e)

1500

Scope

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)**Investment required (unit currency – as specified in C0.4)**

395000000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Our investment required, \$395M, reflects the total investment for all of our capital projects across the Graphic Packaging portfolio in 2018, which increased from \$220M in 2017. The paperboard mills at Graphic Packaging represent 96% of our carbon profile and thus Graphic Packaging focuses on them as a priority for reducing GHG.

Initiative type

Energy efficiency: Processes

Description of initiative

Other, please specify (Recovery Boiler Upgrades)

Estimated annual CO2e savings (metric tonnes CO2e)

18000

Scope

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)**Investment required (unit currency – as specified in C0.4)**

395000000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Our investment required, \$395M, reflects the total investment for all of our capital projects across the Graphic Packaging portfolio in 2018, which increased from \$220M in 2017. The paperboard mills at Graphic Packaging represent 96% of our carbon profile and thus Graphic Packaging focuses on them as a priority for reducing GHG.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Compliance with regulatory requirements / standards: Graphic Packaging is in a heavily regulated industry and thus a portion of capital investments are directed to meet regulatory compliance. We continually assess capital investments for opportunities to achieve higher reductions in greenhouse gas emissions.
Financial optimization calculations	Financial optimization calculations: As a public company, Graphic Packaging applies financial rigor to capital investments to understand the return on investment. These calculations include factors such as emission reduction savings, productivity implications, and overall strategic impacts.
Internal finance mechanisms	Internal finance mechanisms: In addition to return on investment calculations, potential savings and revenue opportunities are assessed as part of our overall financial analysis
Partnering with governments on technology development	Partnering with governments on technology development: Graphic Packaging has partnered with the Department of Energy and California Air Resources Board to develop projects.
Other	Graphic Packaging employees Lean Six Sigma as part of our continuous improvement process which includes defined environmental impacts.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Graphic Packaging manufactures and sells paperboard packaging which is made from a renewable material, tree fiber. A significant portion of the paperboard packaging is also made using renewable energy. When comparing the environmental life cycle of paperboard packaging with other packaging materials such as plastic, glass, or metal, it typically represents a lower environmental footprint. Graphic Packaging partnered with a third-party to better understand the emissions reductions through a life-cycle analysis.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (Life Cycle Assessment)

% revenue from low carbon product(s) in the reporting year

100

Comment

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

1222253

Comment

Scope 2 (location-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

757693

Comment

Scope 2 (market-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

757068

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

1374530

Start date

January 1 2018

End date

December 31 2018

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

731898

Scope 2, market-based (if applicable)

714816

Start date

January 1 2018

End date

December 31 2018

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1661916

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected and allocated according to purchase type (i.e. standard goods and services). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO2e

28680

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected and allocated according to purchase type (capital goods). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO2e

34254

Emissions calculation methodology

The estimated transmission and distribution loss emissions were calculated by taking the product of the final market-based electric power emissions for the Graphic Packaging portfolio and the EIA State Electricity Profile loss factors.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

435900

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected and allocated according to third party transportation (air, water, rail, road freight) and distribution (warehousing and upstream). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

30864

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected for Graphic Packaging's waste management services. Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

12756

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected and allocated according to travel activity (auto rentals, taxi, hotel stays, air travel). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

20400

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Graphic Packaging's employee range was input into the tool, in which Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

This Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

9048

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. Financial expenditure data was collected and allocated according distribution (downstream). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Processing of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

This Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

Use of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

This Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

408

Emissions calculation methodology

The estimated emissions were calculated using the GHG Protocol Quantis Scope 3 Evaluator Tool. The respective material mass of sold products was collected and allocated according product material grouping (i.e. paper, metals, plastics, organics, and mixed). Based on this allocation, Quantis applied emission factors specific to the pulp, paper, printing and publishing sector per dollar spent to calculate the respective emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

This Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

Graphic Packaging does not operate any franchises and as such this Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

This Scope 3 category does not meet any of the criteria (size, influence, risk, stakeholders, outsourcing, etc.) deemed as relevant under the WRI / WBCSD "Corporate Value Chain (Scope 3) Accounting & Reporting Standard" criteria of "sector guidance" as defined in Table 6.1 based on Graphic Packaging's review of operations.

Other (upstream)

Evaluation status

Please select

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

Other (downstream)

Evaluation status

Please select

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Explanation

C-AC6.6/C-FB6.6/C-PF6.6

(C-AC6.6/C-FB6.6/C-PF6.6) Can you break down your Scope 3 emissions by relevant business activity area?

No

C-AC6.6b/C-FB6.6b/C-PF6.6b

(C-AC6.6b/C-FB6.6b/C-PF6.6b) Why can you not report your Scope 3 emissions by business activity area?

Row 1

Primary reason

Lack of internal resources

Please explain

Graphic Packaging's supply chain resources are focused on executing contracts and securing raw material. We have not allocated resources to generate this level of data.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

C6.7a

(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.

Row 1

Emissions from biologically sequestered carbon (metric tons CO2)

5547363

Comment

Biogenic carbon dioxide emissions were calculated for both bark and black liquor using the US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013 emission factor set based on the energy generated from the combustion of these sources.

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)

5547363

Methodology

Default emissions factors

Please explain

Biogenic carbon dioxide emissions were calculated for both bark and black liquor using the US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013 emission factor set based on the energy generated from the combustion of these sources.

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities

Timber

Do you collect or calculate GHG emissions for this commodity?

No

Please explain

Graphic Packaging's resources are focused on executing contracts and securing raw material. We have not allocated resources to generate this level of data.

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.35

Metric numerator (Gross global combined Scope 1 and 2 emissions)

2089346

Metric denominator

unit total revenue

Metric denominator: Unit total

6023000

Scope 2 figure used

Market-based

% change from previous year

6.35

Direction of change

Decreased

Reason for change

The Company's total Scope 1 and Scope 2 emissions have increased year over year by approximately 6.35% after rebaselining our portfolio due to the combination of Graphic Packaging and International Paper's Consumer Packaging Division. This acquisition not only affected our energy and respective emissions, but our annual increase in revenue. Graphic Packaging experienced an increase in net sales by over 30%.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1342046	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	7056	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	25428	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Canada	33358
United States of America	1335488
New Zealand	30
United Kingdom of Great Britain and Northern Ireland	1778
Netherlands	1291
Spain	44
France	130
Australia	60
Mexico	2301
Germany	51

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Americas Converting	30953
Benson Group	250
Beverage Packaging	2473
Graphic Packaging, LLC	572977
Headquarters / Sales	136
Machinery	262
Mills Division	767479

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Yes

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity

Processing/Manufacturing

Emissions category

<Not Applicable>

Emissions (metric tons CO2e)

767479

Methodology

Default emissions factor

Please explain

Over half of Graphic Packaging's Scope 1 emissions result from activities from the mill operations, which are the core of our processing and manufacturing activities. To calculate the respective emissions, the energy activity is multiplied by standard (default) emission factors.

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Australia	5880	5880	7729	
Brazil	173	173	1438	
Canada	10985	2173	73126	
France	264	291	5020	
Germany	1498	2456	3336	
Mexico	6931	6931	14883	
Netherlands	7150	8055	15340	
New Zealand	408	408	3864	
Spain	3053	5525	12361	
United Kingdom of Great Britain and Northern Ireland	10834	14235	38684	
United States of America	684722	668689	1296643	9586

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Americas Converting	169592	161651
Benson Group	4893	6432
Beverage Packaging	19205	23321
Graphic Packaging	283286	305442
Headquarters / Sales	1267	1224
Machinery	646	646
Mills Division	253010	216100

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable >		
Other emissions reduction activities	36437	Decreased	16	Efficiency projects undertaken at 4 of our legacy mills have accounted for 16% of the emissions reduction offset applied to the overall increase in year over year emissions.
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output		<Not Applicable >		
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions	187747	Increased	106	Of the 177k mtons CO2e increase compared to 2017, the increase in natural gas consumption at 2 mills, recently acquired, accounts for 188, mtons. These two mills had market related downtime, one was down for an extended amount of time due an upgrade to its recovery boiler and each experienced reliability related energy issues. When these events take place the mill still requires energy, but the energy source is shifted from renewable energy to fossil fuel based energy.
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	17262266	7318522	24580788
Consumption of purchased or acquired electricity	<Not Applicable>	8905	1463519	1472424
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	17271171	8782041	26053212

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Wood

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

6309832

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Black Liquor

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

10952434

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

1095243

Comment

Fuels (excluding feedstocks)

Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1801

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

51025

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

4717

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Kerosene

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

530

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

7161993

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

70533

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Propane Liquid

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

18047

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

Fuels (excluding feedstocks)

Waste Oils

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

9877

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Black Liquor

Emission factor

0.164

Unit

kg CO2e per million Btu

Emission factor source

US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Coal

Emission factor

95.402

Unit

kg CO2e per million Btu

Emission factor source

US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Diesel

Emission factor

74.203

Unit

kg CO2e per million Btu

Emission factor source

US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Fuel Oil Number 2

Emission factor

74.203

Unit

kg CO2e per million Btu

Emission factor source

US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Kerosene

Emission factor

75.443

Unit

kg CO2e per million Btu

Emission factor source

US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Motor Gasoline

Emission factor
70.463

Unit
kg CO2e per million Btu

Emission factor source
US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Natural Gas

Emission factor
53.115

Unit
kg CO2e per million Btu

Emission factor source
US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Propane Liquid

Emission factor
63.113

Unit
kg CO2e per million Btu

Emission factor source
US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

Waste Oils

Emission factor
21.101

Unit
kg CO2e per million Btu

Emission factor source
IPCC - Intergovernmental Panel on Climate Change 2006 IPCC Guidelines

Comment

Wood

Emission factor
1.156

Unit
kg CO2e per million Btu

Emission factor source
US EPA MRR Final Rule (40 CFR 98) - Industrial Sector 2013

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1942643	1919857	0	0
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor

Energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type

Wind

Region of consumption of low-carbon electricity, heat, steam or cooling

North America

MWh consumed associated with low-carbon electricity, heat, steam or cooling

9586

Emission factor (in units of metric tons CO₂e per MWh)

0

Comment

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers
Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

10

% total procurement spend (direct and indirect)

10

% Scope 3 emissions as reported in C6.5

0

Rationale for the coverage of your engagement

The engagement is in innovation – designing coatings and tapes that are made from renewable materials and recyclable material. We are addressing End-of-Life challenges that petroleum-based resins present.

Impact of engagement, including measures of success

The impact of the engagement will allow Graphic Packaging to provide environmentally responsible packaging solutions that are made from renewable materials and are recyclable and / or compostable. Graphic Packaging measures the success of our engagement with our suppliers through new product sales metrics against our long-range operating plan. Typically, Graphic Packaging anticipates new product sales to represent 2% of sales, when operating successfully.

Comment

A significant challenge with products like Paper Cups & Food Service Packaging is the resin material that is added to the package for barrier protection. Traditional solutions include petroleum-based resins that are considered a contaminant in the paper recycling stream. These solutions are also not compostable. Graphic Packaging has developed advanced biobased resins that provide barrier and are recyclable and compostable.

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

10

% Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

The engagement is in innovation – designing coatings and tapes that are made from renewable materials and recyclable material. We are addressing End-of-Life challenges that petroleum-based resins present. We have currently quantified that ~1-2% of our overall sales are a direct result of innovation of new packaging that is more environmentally friendly. We seek to collaborate with ~10-20% of our customers to continue to explore innovative ideas and products. The rationale for selecting this group of customers for this type of engagement is solely based on customer's openness to this dialogue and collaboration.

Impact of engagement, including measures of success

The impact of the engagement will allow Graphic Packaging customers to provide environmentally responsible packaging solutions that are recyclable and / or compostable. Because we've been able to quantify percentage of sales that are directly related to our sustainable packaging, we view the percentage of these sales as our measurement of success.

C-AC12.2/C-FB12.2/C-PF12.2

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number

MP1

Management practice

Knowledge sharing

Description of management practice

Graphic Packaging engages with landowners, loggers, and land managers on a recurring frequency at training events hosted by Graphic Packaging at the West Monroe and Macon mills. These training events are facilitated by professors and wood procurement managers, who instruct continuing professional educational classes on sustainable forestry management practices. Additionally, Graphic Packaging engages regional members of forestry certification bodies. Graphic Packaging has chosen knowledge sharing as the management practice as it directly empowers our suppliers to make informed and educated decisions with the resources shared by our industry. We expect the sharing of knowledge to create more sustainable wood baskets that increase the resiliency of our supply chain.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Suppliers are encouraged to implement these new practices through personal instruction at Graphic Packaging hosted informational training sessions at our West Monroe and Macon mills.

Climate change related benefit

Increasing resilience to climate change (adaptation)

Increase carbon sink (mitigation)

Reduced demand for fertilizers (adaptation)

Comment

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

No

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers

Trade associations

Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Oppose	Advocacy to federal and state legislators and regulators. Graphic Packaging provides the impact of the legislation to our operations and provides insight on the progress that has been made by the company to reduce our GHG levels. . Our outreach provides the progress that has been made in reducing GHG and the annual costs to comply. Graphic Packaging works with trade associations (American Forest & Paper Association and Paper Recycling Coalition) and scientific labs (National Council for Air and Stream Improvement) in the advocacy efforts. In California Graphic Packaging is a member of the California Manufacturers and Technical Association.	Graphic Packaging supports regulatory reform that requires rulemaking to include science-based measurements, a cost benefit analysis and public review and comment.
Carbon tax	Oppose	Advocacy to federal and state legislators and regulators. Graphic Packaging provides the impact of the legislation to our operations and provides insight on the progress that has been made to reduce our GHG levels. Graphic Packaging utilizes biomass, a renewable energy source, for more than 65% of our global energy. Legislation and regulatory advocacy program regarding the carbon neutrality of biomass is critical to the company. Graphic Packaging has participated with industry associations, scientific labs and ENGO's to develop an accounting for the biogenic carbon generated from biomass energy. This data is a cornerstone of our messaging confirming that biogenic carbon should continue to be considered carbon neutral in the atmosphere. Graphic Packaging works with trade associations (American Forest & Paper Association and Paper Recycling Coalition) and scientific labs (National Council for Air and Stream Improvement) in the advocacy efforts.	Graphic Packaging supports regulatory reform that requires rulemaking to include science-based measurements, a cost benefit analysis and public review and comment. Graphic Packaging also supports legislation and regulatory language that clearly defines biogenic carbon as a carbon neutral renewable energy source.
Energy efficiency	Support	Advocacy to federal and state legislators and regulators. Graphic Packaging was recognized with the Energy Leader Award for reducing energy. The company was supported by an EPA consultant on energy management as part of the program. Graphic Packaging works with trade associations (American Forest & Paper Association and Paper Recycling Coalition) and scientific labs (National Council for Air and Stream Improvement) in the advocacy efforts. We have also worked with the Department of Energy for advice on "best practices" for energy efficiency programs.	Energy efficiency in the areas of research and development and innovation is where legislation may support breakthrough advancements. These could be in the form of research grants or innovation centers. Legislation structured to support advancements in new battery technology would make renewable energy like wind and solar viable as a full-service energy source. This is also an area that is related to energy efficiency.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

American Forest and Paper Association

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

AF&PA members have long been good stewards of our planet's resources. The industry produces recyclable products made from a renewable resource and believe that sustainable practices today will yield positive results for a better tomorrow. Better Practices, Better Planet 2020 - the AF&PA's sustainability initiative - is a proactive commitment to the long-term success of our industry, our communities, our environment and the nearly 900,000 men and women who make the paper and wood products vital to the lives of people around the world. This initiative aligns the objectives of one of the United Nations Sustainable Development Goals (UNSDGs). The six goals targeted within Better Practices focus on increasing paper recovery for recycling, improving energy efficiency, reducing greenhouse gas emissions, promoting sustainable forestry practices, improving workplace safety and reducing water use.

How have you influenced, or are you attempting to influence their position?

Graphic Packaging participated in drafting and writing the position. The company provides environmental data to support the industry's measurement and ultimately the 2020 goals.

Trade association

Paper Recycling Coalition

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Paper Recycling Coalition, Inc. represents the interests of the 100% recycled paperboard and containerboard industries. As a net negative emitter of carbon dioxide CO₂, this industry is a leader in sustainability. For every ton of 100% recycled paperboard produced, 3.17 tons of CO₂ are avoided, when measured using the EPA WARM Model. The Coalition consists of nine companies with 50,000 employees in facilities located in 43 states. The Mission of the Paper Recycling Coalition is to protect the U.S. recovered fiber supply from market distorting government subsidies and costly government regulations. The use of recovered paper to make new products will contribute to reducing atmospheric carbon. Paper and paperboard recycling are one of our country's greatest environmental success stories. The amount of used paper recovered for recycling has nearly doubled since 1990. Over 68% of paper and paperboard materials were recovered in 2017.

How have you influenced, or are you attempting to influence their position?

Graphic Packaging helped draft the position, participated in developing the carbon accounting and is aligned with the position.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Graphic Packaging's VP of Government Affairs and Sustainability provides strategic direction and ensures that the direct and indirect activities regarding climate change policies are consistent with the strategy. The strategy is reviewed formally each year and on an adhoc basis. Graphic Packaging's President and CEO and other members of the Executive Team participate in policy discussions at Federal and State levels. Environmental and climate change risk and opportunities, along with macroeconomic trends, are incorporated in our long-range plan, as appropriate. The long-range plan is presented to the Board of Directors for its consideration.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In voluntary communications

Status

Complete

Attach the document

gpi-sustainability-report-2017.pdf

Page/Section reference

All Sections

Content elements

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

Comment

Publication

In mainstream reports

Status

Complete

Attach the document

Graphic Packaging Holding Company 2018 10-K.pdf

Page/Section reference

Risk Factors

Content elements

- Risks & opportunities

Comment

C13. Other land management impacts

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?

No

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Vice President, General Counsel and Secretary	Other C-Suite Officer

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Graphic Packaging Holding Company (together with its subsidiaries, "Graphic Packaging" or the "Company") is committed to providing consumer packaging that makes a world of difference. The Company is a leading provider of paper-based packaging solutions for a wide variety of products to food, beverage, food service and other consumer products companies. The Company operates on a global basis, is one of the largest producers of folding cartons in the United States ("U.S.") and holds leading market positions in coated unbleached kraft paperboard ("CUK"), coated-recycled paperboard ("CRB") and solid bleached sulfate paperboard ("SBS"). The Company's customers include many of the world's most widely recognized companies and brands with prominent market positions in beverage, food, food service and other consumer products.

The Company strives to provide its customers with packaging solutions designed to deliver marketing and performance benefits at a competitive cost by capitalizing on its low cost paperboard mills and carton manufacturing plants, its proprietary carton, container and packaging designs, and its commitment to quality and service.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	6023000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	3886891015

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

The Coca-Cola Company

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO₂e

27490.6

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

The Coca-Cola Company

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

14637.96

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Anheuser Busch InBev

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

45359.49

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Anheuser Busch InBev

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

24152.634

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Diageo Plc

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1374.53

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Diageo Plc

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

731.898

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Grupo Bimbo, S.A.B. de C.V.

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

8247.18

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Grupo Bimbo, S.A.B. de C.V.

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

4391.388

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Kellogg Company

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

63228.38

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Kellogg Company

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

33667.308

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

McDonald's Corporation

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

15119.83

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

McDonald's Corporation

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

8050.878

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the number of units purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

48108.55

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

PepsiCo, Inc.

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

25616.43

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Restaurant Brands International

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

2749.06

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Restaurant Brands International

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1463.796

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

S.C. Johnson & Son, Inc.

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

4123.59

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

S.C. Johnson & Son, Inc.

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

2195.694

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Lego Group

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

2749.06

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Lego Group

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1463.796

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Unilever plc

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

10996.24

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Unilever plc

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

5855.184

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Koninklijke Philips NV

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

1374.53

Uncertainty (±%)

5

Major sources of emissions

Natural Gas

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

Requesting member

Koninklijke Philips NV

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

731.9

Uncertainty (±%)

5

Major sources of emissions

Electric Power

Verified

No

Allocation method

Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

The GHG Source was identified by reviewing invoices of energy purchases.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

N/A

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
We face no challenges	At this time there are only a few customers requesting allocation. Using global sales to each requesting customer streamlines the process.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

Using the current method of global sales for a customer provides a good estimate of the GHG for our customers.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

The Coca-Cola Company

Group type of project

New product or service

Type of project

New product or service that has a lower upstream emissions footprint

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

1000

Estimated payback

1-3 years

Details of proposal

Explore innovative structural design and board thickness options which will reduce the amount of paperboard for the package.

Requesting member

Lego Group

Group type of project

New product or service

Type of project

New product or service that has a lower upstream emissions footprint

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

300

Estimated payback

1-3 years

Details of proposal

Explore innovative structural design and board thickness options which will reduce the amount of paperboard for the package.

Requesting member

Kellogg Company

Group type of project

New product or service

Type of project

New product or service that has a lower upstream emissions footprint

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

1000

Estimated payback

1-3 years

Details of proposal

Explore innovative structural design and board thickness options which will reduce the amount of paperboard for the package.

Requesting member

Diageo Plc

Group type of project

New product or service

Type of project

New product or service that has a lower upstream emissions footprint

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

20

Estimated payback

1-3 years

Details of proposal

Explore innovative structural design and board thickness options which will reduce the amount of paperboard for the package.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC3.1

(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms