

Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

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

For over 130 years, H.B. Fuller has been a leading global adhesives provider focusing on perfecting adhesives, sealants and other specialty chemical products to improve products and lives. Recognized for unmatched technical support and innovation, H.B. Fuller brings knowledge and expertise to help its customers find precisely the right formulation for the right performance. With fiscal 2019 net revenue of \$2.9 billion, our reliable, responsive service creates lasting, rewarding connections with customers in electronics, disposable hygiene, health and beauty, transportation, aerospace, clean energy, packaging, construction, woodworking, general industries and other consumer businesses. Our promise to our people connects them with opportunities to innovate and thrive. For more information, visit us at www.hbfuller.com and subscribe to our blog.

The Company's strategy is customer centric, focused on differentiation and innovation to deliver value-added products and services. It is concentrating on profitable long-term growth, both organic and through strategic acquisitions. In addition, the company is aligned with several UN Sustainable Development Goals (SDG), including Goal 13: Climate Action and Goal 7: Affordable and Clean Energy. Find out more about SDGs on H.B. Fuller's webpage: <https://www.hbfuller.com/en/north-america/about-us/corporate-responsibility/global-responsibility/sustainable-development-goals>.

The company was founded in 1887 and is head quartered in St. Paul, Minnesota. The Company employs approximately 6,400 team members worldwide. It has a direct presence in 32 countries and reaches customers in over 100 geographic markets.

The Company is listed on the New York Stock Exchange. (NYSE:FUL)

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
Reporting year	January 1, 2019	December 31, 2019	No

C0.3

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

Argentina
Australia
Brazil
China
Egypt
Germany
India
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 chosen approach for consolidating your GHG inventory.

Operational control

C-CH0.7

(C-CH0.7) Which part of the chemicals value chain does your organization operate in?

Row 1

Bulk organic chemicals

Bulk inorganic chemicals

Other chemicals

Other, please specify

Industrial adhesives, coatings, sealant

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
Chief Executive Officer (CEO)	Our President and CEO, who is a member of the Board of Directors, chairs the company's Sustainability Steering Committee. Responsibility for climate-related issues has been assigned to the Sustainability Steering Committee with the CEO as chair, because acting with integrity and doing the right thing in all of our business practices is fundamental to H.B. Fuller's philosophy of winning the right way. Responsibilities include the setting and monitoring of H.B. Fuller's sustainability goals, which include a goal to reduce greenhouse gas emissions per metric ton production by 20% from 2014 to 2025, a goal to reduce total energy use per metric ton production by 20% from 2014 to 2025, a goal to reduce total water withdrawals per metric ton production by 10% from 2014 to 2025, and a goal to reduce waste generation per metric ton production by 10% from 2014 to 2025. An example of a climate-related decision signed off by the CEO is the investment in new greenfield sites and pursuing LEED certification of some of facilities. In addition, the Sustainability Steering Committee made the decision to approve multiple energy savings projects around the world, including upgrading the tower pumps in the emulsion plant cooling tower and replacing modifying our steam system.

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
Sporadic - as important matters arise	Setting performance objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Sustainability is reviewed quarterly with the CEO, who is a member of the Board of Directors and chairs the company's Sustainability Steering Committee. Responsibilities include the setting and monitoring of H.B. Fuller's sustainability goals, which include a goal to reduce greenhouse gas emissions per metric ton production by 20% from 2014 to 2025, a goal to reduce total energy use per metric ton production by 20% from 2014 to 2025, a goal to reduce total water withdrawals per metric ton production by 10% from 2014 to 2025, and a goal to reduce waste generation per metric ton production by 10% from 2014 to 2025.

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
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	As important matters arise
Sustainability committee	Both assessing and managing climate-related risks and opportunities	As important matters arise

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).

i. Our commitment to be a responsible corporate citizen is a source of pride for H.B. Fuller. The Executive Committee delegates responsibility to our Sustainability Steering Committee, which is chaired by our CEO and comprised of senior-level managers from throughout the organization, including the General Counsel and representatives from Corporate Communications, Environmental, Health, and Safety, and Security.

ii. The Sustainability Steering Committee comprised of the CEO, General Counsel, and the heads of Corporate Communications, Environmental, Health, Safety, and Security meet quarterly to review issues related to the company's sustainability goals and performance. The committee is committed to enabling our customers to achieve their sustainability goals and reducing our own environmental impact. We communicate this commitment by responding to sustainability-related customer requests and third party score cards, tracking EHS performance and reporting sustainability progress in our annual Global Responsibility Report. The Sustainability Steering Committee guided the development of a suite of global sustainability goals to reduce our energy intensity, GHG emissions intensity, waste generation intensity, and water withdrawal intensity. Our sustainability metrics are intensity-based to show performance independent of business change. These targets have a 2014 base year and a target year of 2025. We will meet our goals through the implementation of reduction strategies like engineering controls, best practices, equipment upgrades, and employee engagement. We will continue to improve our data collection process in an effort to help our facilities manage the reduction strategies. Annually, the committee reviews the company's environmental intensity goals and metrics on a global and regional level, determines if the metrics in use remain pertinent, and takes action, as needed, to correct performance. In 2020, the company is conducting a materiality assessment – approved and scoped by the committee, managed by a small group of employees, and conducted by a third-party expert in GRI reporting. Going

forward, the company will begin to report ESG (environmental, social, governance) performance through a GRI indexed report.

The role of each Committee member is to report out to the group on relevant sustainability, environmental, and climate-related activities within their department. In particular, the Environmental Health and Safety representative is responsible for reporting on progress on H.B. Fuller's sustainability goals on an annual basis.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	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).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Facilities manager	Monetary reward	Efficiency target	Facility plant managers in EIMEA have sustainability metrics as part of their goals and objectives, which is tied to their compensation.
All employees	Non-monetary reward	Other (please specify) Volunteer Service	<p>As part of our commitment to sustainability and the community, H.B. Fuller maintains the nearly 300-acre Willow Lake Nature Preserve in Vadnais Heights, Minnesota. The Preserve provides opportunities for employees and their guests to enjoy nature and participate in a number of volunteer projects year-round. Every spring, employees volunteer in a cleanup activity to rid the Preserve of trash and debris that finds its way there every winter.</p> <p>In 2019, employees in 12 countries donated nearly 4,000 hours of service to their communities, positively affecting thousands of individuals. Employees selected projects that connected with causes they are passionate about and that addressed local community needs. The 35 Make a Difference projects included renovations at</p>

			<p>veterans' homes, food drives, establishing community gardens, environmental restoration efforts, prosthetic hand building, enrichment activities for children in need, and donations of school supplies, among many others.</p> <p>The initiative led by our employees in Argentina, who provided local children and their families access to fresh, clean water by installing a new pump and tower, including piping, valves, and connections, was voted by our employees around the world as H.B. Fuller's 2019 Outstanding Volunteer Project. Meanwhile, the team in Indonesia partnered with local fishermen to plant more than 1,000 mangrove trees, which act to protect the shoreline, prevent erosion, and provide habitat to local animals. As another example, in Melbourne, Australia, employees assembled prosthetic hands, which were provided to people wounded by land mines in Cambodia.</p>
All employees	Non-monetary reward	Other (please specify) Volunteer Service	<p>The Outstanding Volunteer Award was established to honor H.B. Fuller employees who give back to their communities through volunteerism. Employees who volunteer can nominate themselves, or be nominated, for the Outstanding Volunteer of the Year Award. This award is given to one of our staff each year who is committed to volunteering in the community. Nominees can volunteer for any cause, including environmental, educational, health and many more. The award includes a \$1,000 donation to the non-profit of the recipient's choice and recognition in company communications.</p>
All employees	Non-monetary reward	Efficiency target	<p>The Essence Award, our highest level of employee recognition, is designed to recognize individuals and teams who deliver game-changing results in one of our strategic imperative categories – Innovation, Globality, Customer Intimacy, Profitable Growth and Operational Excellence. It</p>

			acknowledges those who make high-impact contributions to our company, and model for others the very best of our beliefs – the Power of Collaboration, the Spirit of Winning and the Essence of Courage. In 2019, a team of employees with involvement in the renewable energy sector were recognized for their contributions to the company's profitable growth and for demonstrating our core beliefs. This group brought together employees from 3 different legacy businesses, and with their combined technical and market expertise were able to deliver high-performance, effective adhesives and sealants for the fast-growing solar market that simplify panel assembly and increase the reliability and longevity of alternative energy products. While the Essence Award is not specific to climate change, employees can receive the award for their contributions to sustainability.
Environment/Sustainability manager	Non-monetary reward	Emissions reduction target	
Environment/Sustainability manager	Non-monetary reward	Energy reduction target	

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	The short-term time horizon aligns with the overall time horizons used within the business.

Medium-term	1	2	The medium-term time horizon aligns with the overall time horizons used within the business.
Long-term	2	10	The long-term time horizon for the remainder of the business is 2 to 5 years. However, our sustainability goals were set in 2015 and go through 2025, so the climate-related long-term time horizon is 2 to 10 years.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

We define substantive financial impacts when identifying climate- and water-related risks as those that impact our ability to successfully deliver products to our customers in a timely manner. Risks are prioritized based on severity and probability, allowing us to focus on those risks that are the most likely to have a considerable financial impact. For CDP reporting purposes, the quantifiable indicator used to define substantive financial impact in our direct operations is a risk that could create a maximum 2-3% impact on our revenue, due to our comprehensive business continuity plans in place, which equates to approximately \$58 - \$87 million USD.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

H.B. Fuller's leadership team performs an annual enterprise risk management review and reports results to the company's Board of Directors. Our standard methodology for risk assessment and determination of significance includes an evaluation of the severity and frequency of potential risks. Our production plants monitor and report potential site-specific risks monthly, and company-wide assessments are completed annually. Each assessment follows a standard methodology that evaluates the frequency and severity

of potential risks, including several climate related risks, such as sea level rise and flooding. These scores are ranked based on a scale of likelihood and severity, and the top potential risks make up management priorities for the upcoming period. Additionally, we work closely with our customers to understand their concerns and meet all risk mitigation requirements, including coordinating customer audits of relevant facilities. Given that we begin our risk assessments at individual plants and summarize results at the company level, our process is applicable at both the asset- and company-level.

Substantive risks to our direct operations are those that impact our ability to successfully deliver products to our customers in a timely manner. Risks are prioritized based on severity and probability, allowing us to focus on those risks that are the most likely to have a considerable financial impact.

The top potential risks from H.B. Fuller's annual enterprise risk management review make up management priorities for the upcoming period. H.B. Fuller is directly engaged with many of our customers, and we have formal stage gate processes to help analyze and prioritize customer-related opportunities. The Board of Directors uses this information to determine which potential climate-related risks to mitigate, transfer, accept or control, and whether to capitalize on any identified opportunities.

Transitional Risks: We are subject to numerous environmental laws and regulations that impose various environmental controls on us or otherwise relate to environmental protection, the sale and export of certain chemicals or hazardous materials, and various health and safety matters. Case study of how process is applied to transition risks: as a result of a 2015 regulation in China calling for more stringent emission rate for Non Methane Hydrocarbons (NMHCs), our Nanjing facility installed a new air scrubber to comply with the limits. The new system has worked well and maintained emissions of NMHCs below the regulatory limit of 120 mg/m³.

Physical Risks: Unexpected climate-related events, including natural disasters and severe weather events at our facilities or at our supplier's facilities, could increase the cost of doing business. We maintain business continuity plans at each facility. Our preferred approach to severe storms is to divert production to a facility that is not impacted by the event. While this can lead to increased shipment costs, our aim is to deliver products to our customers on time and without disruption. Case study of how process is applied to physical risks, in 2017, Hurricane Harvey and the resulting flooding disrupted our operations in Houston, TX, and we were required to shut down that facility for three days, at a total estimated cost of \$50,000.

Opportunities: We work closely with hundreds of customers across industries to develop adhesive solutions in support of customer sustainability goals, including climate-related goals. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage. As an example, we have developed hot melt adhesive technologies that produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores

require less material to produce, which results in material savings, less energy consumption and less end-product waste.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	H.B. Fuller maintains compliance with all applicable laws and regulations. We are subject to numerous environmental laws and regulations that impose various environmental controls on us or otherwise relate to environmental protection, the sale and export of certain chemicals or hazardous materials, and various health and safety matters. For these reasons, current regulations are always included in our climate-related risk assessments. An example of this risk type is regulation in China. As a result of a 2015 regulation in China calling for more stringent emission rate for Non Methane Hydrocarbons (NMHCs), our Nanjing facility installed a new air scrubber to comply with the limits. The new system has worked well and maintained emissions of NMHCs below the regulatory limit of 120 mg/m ³ . Our EH&S team is tasked with understanding and complying with all regulatory frameworks and tariffs at the local level. Additionally, regulatory concerns are monitored and evaluated with customers and through organizations we participate in, such as the Adhesive and Sealants Council, the American Chemistry Council (ACC) and the Association of European Adhesives and Sealants Manufacturers (FEICA). These organizations monitor regulations that can impact the adhesive industry at large and are thus relevant to H.B. Fuller.
Emerging regulation	Relevant, always included	H.B. Fuller maintains compliance with all applicable laws and regulations and prepares for emerging regulations as needed. We are subject to numerous environmental laws and regulations that impose various environmental controls on us or otherwise relate to environmental protection, the sale and export of certain chemicals or hazardous materials, and various health and safety matters. For these reasons, emerging and potential future regulations are always included in our climate-related risk assessments. An example of this risk type is regulation in China. As a result of a 2015 regulation in China calling for more stringent emission rate for Non Methane Hydrocarbons (NMHCs), our Nanjing facility installed a new air scrubber to comply with the limits. The new system has worked well and maintained emissions of NMHCs below the regulatory limit of 120 mg/m ³ . Our EH&S team is tasked with understanding and complying with all regulatory frameworks and tariffs at the local level. Additionally, regulatory concerns are monitored and evaluated with customers and through organizations we participate in, such as the Adhesive and Sealants Council, the American Chemistry

		<p>Council (ACC) and the Association of European Adhesives and Sealants Manufacturers (FEICA). These organizations monitor regulations that can impact the adhesive industry at large and are thus relevant to H.B. Fuller.</p>
Technology	Relevant, always included	<p>H.B. Fuller considers technology as a part of our product development process. We work closely with hundreds of customers across industries to develop adhesive solutions in support of customer sustainability goals, including climate-related goals. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. An example of this risk type is losing competitive advantage if we do not continue to produce innovative adhesive technologies. H.B. Fuller has an opportunity to increase our competitive advantage, as well as a risk of. H.B. Fuller makes product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. Our goal for new products resulting from our stage gate processes is in line with leading industry targets of 25% of sales of products less than 5 years old. An example of this risk type is our development of low emission automotive adhesives and sealants that are formulated to enable lightweight designs that increase energy efficiency, safety, and indirectly reduce the carbon footprint of our customers, and to comply with, or exceed, the most current regulations.</p>
Legal	Relevant, always included	<p>H.B. Fuller considers potential legal risks, such as exposure to litigation, violations, and fines, as part of our risk assessment process. This includes climate-related legal risks. Our EH&S team is tasked with understanding and complying with all regulatory frameworks and tariffs at the local level, and thus ensuring that we avoid legal action. Additionally, regulatory concerns are monitored and evaluated with customers and through organizations we participate in, such as the Adhesive and Sealants Council, the American Chemistry Council (ACC) and the Association of European Adhesives and Sealants Manufacturers (FEICA). These organizations monitor regulations that can impact the adhesive industry at large and are thus relevant to H.B. Fuller. An example of this type of risk is exposure to enforcement orders and fines. In 2015, our Blue Ash facility was subject to an enforcement order. The Metropolitan Sewer District (MSD) stated that the facility was in violation of its permit because the polymer outflow was not sampled during the second half of 2015. The production facility was not operational from August through the last week of December in that year. The facility was expected to sample during the last week when we started up, and did not, hence the stated permit violation.</p>

Market	Relevant, always included	<p>H.B. Fuller considers changing consumer demand as a part of our product development process. We work closely with hundreds of customers across industries to develop adhesive solutions in support of customer sustainability goals, including climate-related goals. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. H.B. Fuller makes product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. Our goal for new products resulting from our stage gate processes is in line with leading industry targets of 25% of sales of products less than 5 years old. An example of responding to our customer's needs is the drive in some markets to move to lower temperature hot melt solutions. By maintaining hot melt tanks at a lower temperature, you will consistently use less energy than with traditional hot melt technology. In addition, depending on the energy source, this energy savings can translate directly into carbon dioxide savings. H.B. Fuller has a range of patented low application hot melts for end of line packaging combining both lower temperatures and designed to close more cartons with less adhesive, for improved efficiency too. More details of H.B. Fuller sustainable packaging solutions can be found here: https://www.hbfuller.com/en/north-america/products-and-technologies/markets-and-applications/packaging/sustainable-packaging-solutions.</p>
Reputation	Relevant, always included	<p>H.B. Fuller considers reputation as a part of our product development process. We work closely with hundreds of customers across industries to develop adhesive solutions in support of customer sustainability goals, including climate-related goals. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. H.B. Fuller makes product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. Our goal for new products resulting from our stage gate processes is in line with leading industry targets of 25% of sales of products less than 5 years old. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage. An example of this risk type is our development of hot melt adhesive technologies that produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner</p>

		cores require less material to produce, which results in material savings, less energy consumption and less end-product waste.
Acute physical	Relevant, always included	Unexpected climate-related events, including natural disasters and severe weather events at our facilities or at our supplier's facilities, could increase the cost of doing business or otherwise harm our operations, our customers and our suppliers. Such events could reduce demand for our products or make it difficult or impossible for us to receive raw materials from suppliers and deliver products to our customers. Our production plants monitor and report potential site-specific risks monthly, and company-wide assessments are completed annually. Each assessment follows a standard methodology that evaluates the frequency and severity of potential risks, including acute physical climate-related risks. These scores are ranked based on a scale of likelihood and severity, and the top potential risks make up management priorities for the upcoming period. We maintain business continuity plans at each facility. Our preferred approach to severe storms is to divert production to a facility that is not impacted by the event. While this can lead to increased shipment costs, our aim is to deliver products to our customers on time and without disruption. An example of this risk type occurred in 2017 with Hurricane Harvey. The resulting flooding disrupted our operations in Houston, TX, and we were required to shut down that facility for three days, at a total estimated cost of \$50,000.
Chronic physical	Relevant, always included	Long term changes in physical climate, such as weather patterns or sea level rise, are included in our annual risk assessment process. Our production plants monitor and report potential site-specific risks monthly, and company-wide assessments are completed annually. Each assessment follows a standard methodology that evaluates the frequency and severity of potential risks, including chronic physical climate-related risks. These scores are ranked based on a scale of likelihood and severity, and the top potential risks make up management priorities for the upcoming period. An example of this risk type is long term water quality and availability. These are crucial at facilities where we produce water-based adhesives. Our facility in India relies primarily on local ground water for manufacturing activities, and in dry times, it has required us to bring in water from further distances, where the water table is higher. Long term shifts in weather patterns could further impact the availability of certain sources of water for our operations, causing us to look elsewhere.

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 & Primary climate-related risk driver

Current regulation

Mandates on and regulation of existing products and services

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

We are subject to numerous environmental laws and regulations that impose various environmental controls on us or otherwise relate to environmental protection, the sale and export of certain chemicals or hazardous materials, and various health and safety matters. The costs of complying with these laws and regulations can be significant and may increase as applicable requirements and their enforcement become more stringent and more rules are implemented. Adverse developments and/or periodic settlements could negatively impact our results of operations and cash flows. For example, a 2015 regulation in China required more stringent emission rate for Non Methane Hydrocarbons (NMHCs), which prompted our Nanjing facility to install a new air scrubber.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

55,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact of future laws is uncertain. Non-compliance with a new law may result in a fine, or it could lead to an inability to operate the facility. In the case of the Nanjing facility, lack of compliance with the regulation would have resulted in facility closure until compliance was obtained. The financial impact estimate of \$55,000 is based on estimated lost profits from a theoretical five day closure of our Nanjing facility.

Cost of response to risk

50,000

Description of response and explanation of cost calculation

H.B. Fuller manages this risk by maintaining compliance with all existing applicable laws and regulations, as well as staying informed of new legislation when it is enacted. Regulation concerns are monitored and evaluated with customers and through organizations we participate in, such as the Adhesive and Sealants Council, the American Chemistry Council (ACC) and the Association of European Adhesives and Sealants Manufacturers (FEICA). These organizations monitor regulations that can impact the adhesive industry at large and are thus relevant to H.B. Fuller. For example, as a result of a 2015 regulation in China calling for more stringent emission rate for Non Methane Hydrocarbons (NMHCs), our Nanjing facility installed a new air scrubber to comply with the limits. The new system has worked well and maintained emissions of NMHCs below the regulatory limit of 120 mg/m³.

H.B. Fuller invested \$52,500 in the Nanjing air scrubber project, which is an example of the level of investment required to meet new environmental regulations at a single facility. This was calculated based on the costs to meet new environmental regulations.

Comment**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Market

Increased cost of raw materials

Primary potential financial impact

Increased direct costs

Company-specific description

In 2019, raw material costs made up approximately 75 percent of our cost of sales. Accordingly, changes in the cost and availability of raw materials can significantly impact

our earnings. Raw materials needed to manufacture products are obtained from a number of suppliers and many of the raw materials are petroleum and natural gas based derivatives. Under normal market conditions, these raw materials are generally available on the open market from a variety of producers. While alternate suppliers of most key raw materials are available, supplier production outages may lead to strained supply-demand situations for certain raw materials. The substitution of key raw materials requires us to identify new supply sources, reformulate, retest and may require seeking re-approval from our customers using those products. From time to time, the prices and availability of these raw materials may fluctuate, which could impair our ability to procure necessary materials, or increase the cost of manufacturing products. If the prices of raw materials increase in a short period of time, we may be unable to pass these increases on to our customers in a timely manner and could experience reductions to our profit margins.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

8,100,000

Potential financial impact figure – minimum (currency)**Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

In 2019, we spent approximately \$1.5 billion for raw materials worldwide. Based on 2019 financial results, a hypothetical one percent change in our raw material costs would have resulted in a change in net income of approximately \$8.1 million.

Cost of response to risk

0

Description of response and explanation of cost calculation

H.B. Fuller manages this risk by avoiding sole supplier agreements and qualifying alternate suppliers for as many raw materials as possible. The substitution of key raw materials involves identifying new supply sources, reformulating, retesting and can require seeking re-approval from our customers using those products. Additionally, we work closely with hundreds of customers across industries to develop sustainable adhesive solutions. We are always looking for ways to use more renewable raw

materials in our products. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage. For example, we have developed hot melt adhesive technologies that produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores require less material to produce, which results in material savings, less energy consumption and less end-product waste. Management of the potential increased cost of raw materials is a routine part of H.B. Fuller's business, hence the \$0 incremental cost.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

Primary potential financial impact

Decreased revenues due to reduced production capacity

Company-specific description

Unexpected events, including natural disasters and severe weather events at our production facilities or those of our suppliers could increase the cost of doing business or otherwise harm our operations, our customers and our suppliers. Such events could reduce demand for our products or make it difficult or impossible for us to receive raw materials from suppliers and deliver products to our customers in a timely fashion. In 2017, Hurricane Harvey and the resulting flooding disrupted our operations in Houston, TX, and we were required to shut down that facility for three days.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

50,000

Potential financial impact figure – minimum (currency)**Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

This cost estimate is based on actual costs resulting from flooding and storm impacts of Hurricane Harvey. In 2017, Hurricane Harvey and the resulting flooding disrupted our operations in Houston, TX, and we were required to shut down that facility for three days, at a total estimated cost of \$50,000. We calculated this amount based on the cost of shutting down this facility for three days, based on actual data from our Houston, TX site.

Cost of response to risk

0

Description of response and explanation of cost calculation

We maintain business continuity plans at each facility. Our preferred approach to severe storms is to divert production to a facility that is not impacted by the event. While this can lead to increased shipment costs, our aim is to deliver products to our customers on time and without disruption. In 2017, production was halted at our Houston, TX plant, causing us to use inventory we already had to meet customer needs. This is a routine part of our business, and thus incurs an incremental cost of zero (\$0).

Comment**Identifier**

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Rising mean temperatures

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Due to the nature of our adhesive business, adding heat to our buildings is necessary for production for the manufacturing of many of our adhesive products. The temperature in our buildings are affected by this added heat, in addition to the rising mean external temperatures due to climate change. Rising mean temperatures could increase the cost of doing business due to extra programs, trainings, and standards (improved ventilation)

for our workforce regarding heat stress. Our aim is to decrease heat stress and heat-related illnesses for our workforce.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

120,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The cost estimate for financial impact is based on the cost of potential injuries from heat stress.

Cost of response to risk

520,000

Description of response and explanation of cost calculation

Sites effected by heat stress maintain their own procedures, in accordance with our corporate heat stress standard. The cost of management includes heat stress training and investing in improved ventilation. The cost of adding ventilation at 5 locations and the cost of increased utilities at 40 locations is included in the cost of management.

Comment

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

(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?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Our customers are subject to numerous environmental laws and regulations that affect their business. Additionally, future changes in environmental laws and regulations could pose challenges to our customers. H.B. Fuller has an opportunity to help our customers succeed in the current regulatory environment by providing high-quality adhesives products for particular applications. For example, regulations related to vehicle fuel efficiency are leading some auto manufacturers to expand their electric vehicle offerings. H.B. Fuller has an adhesive - Swift®bond 4006FR – which is a flame-retardant, low-density polyurethane foam that provides thermal insulation to EV battery cells. This product provides a more stable temperature in the battery pack, improves safety, and enables continuous innovation in automotive electrification. Additionally, many countries and U.S. states have renewable electricity generation requirements. H.B. Fuller is now a key global player in the market of materials for renewable electricity – approximately 1/3 of solar panels produced globally uses our Tonsan silicon sealants. H.B. Fuller also has offerings across all other main renewable energy sources aside from solar PV, including wind energy, solar thermal, and battery energy storage. Last, we supply adhesives to a solar backsheet manufacturer for lamination. We work to create high performance, effective adhesives and sealants for the solar market, one of the fastest-growing energy technologies, that simplify panel assembly and increase reliability and longevity. We customize our packages, enabling faster installations, reduced labor hours, and lower costs.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)
Potential financial impact figure – minimum (currency)

1

Potential financial impact figure – maximum (currency)

144,850,000

Explanation of financial impact figure

Increased demand for existing products could lead to increased sales and revenue for H.B. Fuller. Our goal for new products resulting from our stage gate processes is in line with leading industry targets of 25% of sales of products less than 5 years old. Of this, approximately 20% of total revenue is from sustainability-related products. The potential financial impact figure of \$144,850,000 is 5% of our 2019 revenue.

Cost to realize opportunity

4,345,500

Strategy to realize opportunity and explanation of cost calculation

Given our customers' increasing requests for more energy- and resource-efficient products and our efforts to date, we are well positioned to leverage the opportunity to increase demand for our products. We make product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. We work closely with customers across industries to develop adhesive solutions in support of broad sustainability goals. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. For example, the adhesives used by solar backsheet manufacturers for lamination are a variation on our Flex Pack product, which we adjusted to suit the solar encapsulant application. Another example is with adhesives used in auto manufacturing. Swift®lock and Swift®therm hot melt adhesive technologies, used by automotive manufacturers, enable bonding of lighter and recyclable materials without use of energy-intensive pre-treatment, reducing use of energy, water and solvents. With our lightweight solutions concerning elastic, semi-structural and structural adhesives, we help our partners to realize their lightweight constructions and to reduce the weight of their vehicles. Our automotive solutions around bonding, sealing, protection and thermal management of battery packs enables H.B. Fuller customers to realize their battery concepts for battery electric vehicles, such as gap fillers for battery packs, sealing for joint edges and battery covers, and thermally conductive adhesives which support the thermo-management in the battery. The investment cost to realize the opportunity is \$4,345,500, which is 3% of the maximum potential financial impact figure (3% of 144,850,000). This is an estimate based on current research and development cost allocation to sustainability related projects.

Comment

Management of the potential for development of new products or services through R&D and innovation is a routine part of H.B. Fuller's business, hence the \$0 incremental cost.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Given our customers increasing requests for more energy- and resource-efficient products, H.B. Fuller has an opportunity to increase sales and revenue by improving product performance and efficiency. H.B. Fuller is directly engaged with many of our customers, and we have formal stage gate processes to help analyze and prioritize customer-related opportunities. Customer needs are evaluated to deliver the innovations most in demand, and we have introduced several products and technologies that meet our customers' current and future demands for improved efficiency, safety, and resource reduction. H.B. Fuller's innovation process, which includes consideration of customer needs, is intended to provide solutions with a balance of economic, environmental, and social value.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1

Potential financial impact figure – maximum (currency)

144,850,000

Explanation of financial impact figure

Increased demand for existing products could lead to increased sales and revenue for H.B. Fuller. Our goal for new products resulting from our stage gate processes is in line with leading industry targets of 25% of sales of products less than 5 years old. Of this, approximately 20% of total revenue is from sustainability-related products. The potential financial impact figure of \$144,850,000 is 5% of our 2019 revenue.

Cost to realize opportunity

4,345,500

Strategy to realize opportunity and explanation of cost calculation

Given our customers' increasing requests for more energy -and resource-efficient products and our efforts to date, we are well positioned to take advantage of the opportunity to increase demand for our products. We make product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. For example, there has been a trend recently to manufacture products containing thinner cores. In response to this, we have developed hot melt adhesive technologies that produce thin and comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores require less material to produce, which results in material savings, less energy consumption and less end-product waste. Additionally, thinner cores are lighter, which reduces fuel use in shipping. The investment cost to realize this example and other sustainable development project opportunities is \$4,345,500, which is 3% of the maximum potential financial impact figure (3% of 144,850,000). This is an estimate based on current research and development cost allocation to sustainability related projects.

Comment

Management of the potential for a shift in consumer preferences is a routine part of H.B. Fuller's business, hence the \$0 incremental cost.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

For many years, H.B. Fuller has been implementing energy efficiency projects and low carbon initiatives at our facilities around the world. These projects contribute to our commitment to meet our customers' current and future demands for improved efficiency, safety, and resource reduction. It is also an opportunity to reduce our operating costs and improve the resiliency of our operations. For example, approximately 400 solar panels have been installed on the roof of our world headquarters, creating a 110 kW AC system that is expected to generate nearly 5% of the energy our campus uses, or approximately 167,000 kWh per year. This was the first solar project on the Corporate buildings, carried out in conjunction with one of our largest new energy customers. We plan on subsequent steps to extend this renewable energy solution across the rest of the complex.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)
Potential financial impact figure – minimum (currency)

1

Potential financial impact figure – maximum (currency)

489,000

Explanation of financial impact figure

The potential financial impact figure of \$489,000 is based on the cost-savings achieved through our implemented energy efficiency projects at 10 sites in 2019. Some of the energy efficiency projects we implemented include installing efficient lighting, modifying steam systems, reduction of machine operating time, and more.

Cost to realize opportunity

563,000

Strategy to realize opportunity and explanation of cost calculation

Our strategy to realize this opportunity involves the development and implementation of energy efficiency projects around the world. Site energy efficiency project accomplishments are shared out globally in a quarterly sustainability update, so that all sites can learn these best practices. Implementing energy efficiency projects help us work towards our goals to reduce greenhouse gas emissions per metric ton of production by 20% by 2025 (2014 base year) and to reduce total energy use per metric

ton production by 20% by 2025 (2014 base year). As of 2019, we are on track to meet both of these goals, due in part to these energy efficiency projects, which yielded an avoidance of 800 metric tonnes CO₂e. The cost to realize this opportunity of \$563,000 is based on the monetary investments required to implement energy efficiency projects in 2019. There were no additional costs beyond this implementation cost.

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Our customers are subject to numerous environmental laws and regulations that affect their business. Additionally, future changes in environmental laws and regulations could pose challenges to our customers. H.B. Fuller has an opportunity to help our customers succeed in the current regulatory environment by providing high-quality adhesives products for particular applications. For example, new European regulations related to single-use plastics are leading the beverage industry and associated manufacturers to expand their straw offerings. H.B. Fuller produces water-based adhesives for manufacturing paper straws, which helps to meet the customer demand for more paper straws. H.B. Fuller enables more paper straws to be manufactured and used by customers in Europe and across the world as opposed to single-use plastic straws that have a negative environmental impact. In addition, H.B. Fuller's water-based food-compliant adhesives for paper straws are durable, clean machining, and liquid resistant to ensure straw integrity during use. Our scientists at H.B Fuller are also actively working to create a compostable paper straw adhesive, so offering potential for an even lower carbon footprint solution. The market for paper straws is emerging and H.B. Fuller is well positioned to increase their revenues by developing adhesive products to meet this growing demand.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes

C3.1a

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

No, and we do not anticipate doing so in the next two years

C3.1c

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

Scenario analyses have not yet been conducted to inform our business strategy, and we do not expect to conduct them in the next two years or beyond that. Before considering climate-related scenario analysis, we would first need to consider the availability and quality of climate-related modelling and results, and how that modelling and those results may be applicable to our

company and our industry. Our current focus to mitigate future climate-related impacts is on achieving our 2025 sustainability goals. H.B. Fuller's voluntary goal to reduce greenhouse gas emissions per metric ton production by 20% by 2025, with a 2014 base year, is complemented by our voluntary goal to reduce total energy use per metric ton production by 20% by 2025, with a 2014 base year. Additionally, we have voluntary goals to reduce total water withdrawals per metric ton production by 10% from 2014 to 2025, and to reduce total waste generated per metric ton production by 10% from 2014 to 2025.

C3.1d

(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Our commitment to be a responsible corporate citizen is a source of pride for H.B. Fuller. Our products and services have been influenced by climate-related risks and opportunities because we support the shift to a low-carbon economy through our products, which enable light-weighting for EV's, better performing solar panels, and efficient wind turbines. Our adhesives are also true enablers of the circular economy benefits, including extending the durability of products and their reparability and reuse, as well as creating the opportunity to minimize waste and recycle materials at the end of their useful lives. This influence is on a long-term, ongoing time-horizon.</p> <p>Increased demand for our products could lead to increased sales and revenue. Given our customers increasing requests for more energy- and resource-efficient products and our efforts to date, H.B. Fuller is well positioned to leverage the opportunity to increase demand for our products. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. In addition, as part of the Responsible Care initiative, we made a worldwide commitment to promote pollution prevention, minimization of waste and conservation of energy and other critical resources at every stage of the life cycle of our products. These efforts are being recognized by external parties; H.B. Fuller has been named in Newsweek's inaugural ranking of</p>

		<p>America's Most Responsible Companies 2020, reinforcing our reputation as an organization that strives to be an excellent corporate citizen.</p> <p>Case Study: the adhesives used by solar backsheet manufacturers for lamination are a variation on our Flex Pack product, which we adjusted to suit the solar encapsulant application. Another example is with adhesives used in auto manufacturing. Swift@lock and Swift@therm hot melt adhesive technologies, used by automotive manufacturers, enable bonding of lighter and recyclable materials without use of energy-intensive pre-treatment, reducing use of energy, water and solvents. With our lightweight solutions concerning elastic, semi-structural and structural adhesives, we help our partners to realize their lightweight constructions and to reduce the weight of their vehicles.</p>
Supply chain and/or value chain	Yes	<p>Our supply chain has been influenced by climate-related risks and opportunities because changes in the cost and availability of raw materials can significantly impact our earnings. In 2019, raw material costs made up approximately 75 percent of our cost of sales; We spent approximately \$1.5 billion for raw materials worldwide. Based on 2019 financials, a hypothetical one percent change in our raw material costs would have resulted in a change in net income with a magnitude of approximately \$8.1 million. This influence is on a long-term, ongoing time-horizon.</p> <p>H.B. Fuller manages this risk by avoiding sole supplier agreements and qualifying alternate suppliers for as many raw materials as possible. Additionally, we work closely with hundreds of industries and customers to develop sustainable adhesive solutions. We are always looking for ways to use more renewable raw materials in our products. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage.</p> <p>Raw materials needed to manufacture products are obtained from a number of suppliers. Under normal market conditions, these raw materials are generally available on the open market from a variety of producers. While alternate suppliers of most key raw materials are available, supplier production outages may lead to strained supply-demand situations for certain raw materials. The substitution of key</p>

		<p>raw materials requires us to identify new supply sources, reformulate, retest and may require seeking re-approval from our customers using those products. From time to time, the prices and availability of these raw materials may fluctuate, which could impair our ability to procure necessary materials, or increase the cost of manufacturing products. If the prices of raw materials increase in a short period of time, we may be unable to pass these increases on to our customers in a timely manner and could experience reductions to our profit margins.</p> <p>Case Study: we have developed hot melt adhesive technologies that produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores require less material to produce, which results in material savings, less energy consumption and less end-product waste.</p>
Investment in R&D	Yes	<p>Given our customers increasing requests for more energy- and resource-efficient products and our efforts to date, H.B. Fuller is well positioned to leverage the opportunity to increase demand for our products through investment in R&D. Our investment in R&D has been influenced by climate-related risks and opportunities because we make product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. We work closely with customers across industries to develop adhesive solutions in support of broad sustainability goals, on a long-term, ongoing time horizon. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste.</p> <p>Case Study of the most substantive strategic decisions made that have been influenced by climate-related risks and opportunities: adhesives used in auto manufacturing. Swift®lock and Swift®therm hot melt adhesive technologies, used by automotive manufacturers, enable bonding of lighter and recyclable materials without use of energy-intensive pre-treatment, reducing use of energy, water and solvents. With our lightweight solutions concerning elastic, semi-structural and structural adhesives, we help our partners to realize their lightweight constructions and to reduce the weight of their vehicles. Our</p>

		<p>automotive solutions around bonding, sealing, protection and thermal management of battery packs enables H.B. Fuller customers to realize their battery concepts for battery electric vehicles, such as gap fillers for battery packs, sealing for joint edges and battery covers, and thermally conductive adhesives which support the thermo-management in the battery.</p> <p>R&D spend in the adhesive industry is roughly 2% of sales, and H.B. Fuller is in a similar range. Increased demand for existing products could lead to increased sales and revenue for H.B. Fuller.</p>
Operations	Yes	<p>Our operations have been influenced by climate-related risks and opportunities because we implement best practice manufacturing processes to reduce energy consumption associated with production, which results in reduced GHG emissions. Specifically, we are implementing an energy management program at select facilities, including ISO 50001 certification. We have also begun relocating production to improve operational efficiency. Production from several older facilities was moved to more efficient existing facilities, yielding energy and GHG savings from consolidation of labs and offices and harmonization of raw materials sourcing. This production maximization project contributes to our commitment to meet our customers' demands for improved efficiency, safety, and resource reduction. These improvements in our operations are on an ongoing, long-term time horizon.</p> <p>Case Study of the most substantive strategic decisions made that have been influenced by climate-related risks and opportunities: we consider sustainability and climate change when building or renovating production plants. For example, in 2017, our Surabaya plant was awarded LEED Gold certification, one of only three facilities in Indonesia to have achieved this level of certification (at the time of certification). The facility was designed to minimize its environmental impact, including its impact on local ecosystems. For example, the facility has twice as much open space as is required by local laws, installation of state-of-the-art high efficiency water closets led to a projected 37 percent reduction in potable water use, and 100% of wastewater is treated to tertiary standards and used onsite.</p>

C3.1e

(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Capital expenditures Assets	<p>Revenues: Climate-related risks and opportunities have influenced our financial planning for revenues because our customers are increasing their requests for more energy- and resource-efficient products. H.B. Fuller is well positioned to leverage the opportunity to increase demand for our products, which leads to increased revenues. The financial planning for revenues is done on a long-term, ongoing basis. H.B. Fuller makes product performance and efficiency improvements through a formal stage-gate process that analyzes and prioritizes customer requests, ultimately providing solutions with a balance of economic, environmental, and social value. We work closely with hundreds of customers across industries to develop adhesive solutions in support of broad sustainability goals, including climate and circular economy related goals. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. Time Horizon: Ongoing, long-term time horizon. Case study: Climate-related risks and opportunities have influenced our financial planning for revenues specifically for adhesives used in the solar industry. Adhesives used by solar backsheet manufacturers for lamination are a variation on our Flex Pack product, which we adjusted to suit the solar encapsulant application. Another example is with adhesives used in auto manufacturing. Swift@lock and Swift@therm hot melt adhesive technologies, used by automotive manufacturers, enable bonding of lighter and recyclable materials without use of energy-intensive pre-treatment, reducing use of energy, water and solvents. With our lightweight solutions concerning elastic, semi-structural and structural adhesives, we help our partners to realize their lightweight constructions and to reduce the weight of their vehicles. Our automotive solutions around bonding, sealing, protection and thermal management of battery packs enables H.B. Fuller customers to realize their battery concepts for battery electric vehicles, such as gap fillers for battery packs, sealing for joint edges and battery covers, and thermally conductive adhesives which support the thermo-management in the battery.</p> <p>Direct Costs: Changes in the cost and availability of raw materials can significantly impact our earnings. In 2019, raw material costs made up approximately 75% of our cost of sales. In 2019, we spent approximately \$1.5 billion for raw materials worldwide. Based on 2019 financial results,</p>

		<p>a hypothetical one percent change in our raw material costs would have resulted in a change in net income of approximately \$8.1 million. Raw materials needed to manufacture products are obtained from a number of suppliers and many of the raw materials are petroleum and natural gas based derivatives. Under normal market conditions, these raw materials are generally available on the open market from a variety of producers. While alternate suppliers of most key raw materials are available, supplier production outages may lead to strained supply-demand situations for certain raw materials. The substitution of key raw materials requires us to identify new supply sources, reformulate, retest and may require seeking re-approval from our customers using those products. From time to time, the prices and availability of these raw materials may fluctuate, which could impair our ability to procure necessary materials, or increase the cost of manufacturing products. If the prices of raw materials increase in a short period of time, we may be unable to pass these increases on to our customers in a timely manner and could experience reductions to our profit margins.</p> <p>Climate-related risks and opportunities have influenced our financial planning for direct costs because we maintain alternate suppliers for as many raw materials as possible. Additionally, we work closely with hundreds of industries and customers to develop sustainable adhesive solutions. We are always looking for ways to use more renewable raw materials in our products. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage. Time Horizon: Ongoing, long-term time horizon.</p> <p>Capital Expenditures: Climate-related risks and opportunities have influenced our financial planning for capital expenditures because capital expenditures are made to reduce our impact on climate change on a long-term, ongoing basis. We implement best practice manufacturing processes to reduce energy consumption associated with production, which results in reduced GHG emissions. Time Horizon: Ongoing, long-term time horizon.</p> <p>Assets: Climate-related risks and opportunities have influenced our financial planning for assets because we consider sustainability and climate change when building or renovating production plants on a long-term, ongoing basis. Time Horizon: Ongoing, long-term time horizon.</p>
--	--	---

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

- i. Our commitment to be a responsible corporate citizen is a source of pride for H.B. Fuller. We support the shift to a low-carbon economy through our products, which enable light-weighting

for EV batteries, better performing solar panels, and efficient wind turbines. We also enable the use of less packaging material through our reinforcing adhesive solutions.

The Executive Committee delegates responsibility to our Sustainability Steering Committee, which is chaired by our CEO and comprised of senior-level managers from throughout the organization, including the General Counsel and representatives from Corporate Communications, Environmental, Health, and Safety, and Security. A goal of the Committee is to manage and communicate our sustainability efforts, including climate change management. We are committed to enabling our customers to achieve their sustainability goals and reducing our own environmental impact. We communicate this commitment by responding to sustainability-related customer requests and third party score cards, tracking EHS performance and reporting sustainability progress in our annual Global Responsibility Report.

We implement best practice manufacturing processes to reduce energy consumption associated with production, which results in reduced GHG emissions. Specifically, we are implementing an energy management program at select facilities, including ISO 50001 certification. We have also begun relocating production to improve operational efficiency. Production from several older facilities was moved to more efficient existing facilities, yielding energy and GHG savings from consolidation of labs and offices and harmonization of raw materials sourcing. This production maximization project contributes to our commitment to meet our customers' demands for improved efficiency, safety, and resource reduction. Finally, we consider sustainability and climate change when building or renovating production plants. For example, in 2017, our Surabaya plant was awarded LEED Gold certification, one of only three facilities in Indonesia to have achieved this level of certification (at the time of certification). The facility was designed to minimize its environmental impact, including its impact on local ecosystems. For example, the facility has twice as much open space as is required by local laws, installation of state-of-the-art high efficiency water closets led to a projected 37 percent reduction in potable water use, and 100% of wastewater is treated to tertiary standards and used onsite.

ii. Guided by the Sustainability Steering Committee, we have developed a suite of global sustainability goals to reduce our energy intensity, GHG emissions intensity, waste generation intensity, and water withdrawal intensity. Our sustainability metrics are intensity-based to show performance independent of business change. These targets have a 2014 base year and a target year of 2025. We will meet our goals through the implementation of reduction strategies like engineering controls, best practices, equipment upgrades, and employee engagement. We will continue to improve our data collection process in an effort to help our facilities manage the reduction strategies. Our targets are:

- Reduce energy intensity by 20% between 2014-2025
- Reduce scope 1 and 2 greenhouse gas emissions intensity by 20% between 2014-2025
- Reduce waste intensity by 10% between 2014-2025
- Reduce water withdrawal intensity by 10% between 2014-2025

iii. One of the most substantial business decisions made in recent years was to pursue LEED certification at our Indonesia facility. In 2017, our Surabaya plant was awarded LEED Gold certification, one of only three facilities in Indonesia to have achieved this level of certification (at the time of certification). The facility was designed to minimize its environmental impact,

including its impact on local ecosystems. For example, the facility has twice as much open space as is required by local laws, installation of state-of-the-art high efficiency water closets led to a projected 37 percent reduction in potable water use, and 100% of wastewater is treated to tertiary standards and used onsite.

iv. We recognize the world's finite resources require us to minimize our impact on the environment while creating value for our customers. Our sustainability program is driven by our innovative adhesive solutions that enable our customers to meet their own sustainability goals and minimize our own impact on the environment. We work closely with our customers to develop adhesive solutions to support their sustainability goals. One way we make a significant impact is through technologies that improve our customers' operational efficiency. For example, Advantra® LT 9110 has an application temperature of 100 to 110 degrees Celsius, which is up to 44% lower than standard hot melt adhesives, reducing the necessary energy to apply the adhesive by upwards of 20%. In general, when comparing the low application temperature hot melt adhesives and the standard hot melts, a study found that it takes 33% more energy to prepare adhesives at 170 degrees Celsius than 100 degrees Celsius. These energy savings translate directly into carbon dioxide savings dependant on the alternative energy source. Within EIMEA specifically, the low application temperature hot melt grade adhesive products represent about 20% of the turnover in product sales, indicating the size of impact this product is having on the market.

v. The component of our short-term strategy that has been most influenced by sustainability and climate change is our product development efforts to support our customers' sustainability efforts. We create innovative solutions for our customers. For example, there has been a trend recently to manufacture products containing thinner cores in hygiene articles. We enable our customers to produce thinner disposable hygiene products with minimized environmental impact. Thinner cores require less material to produce, which results in material savings and a reduction in energy consumption. Additionally, thinner cores are lighter, which reduces fuel use in shipping. Finally, enabling this trend of thinner cores can significantly reduce landfilled waste.

vi. The component of our long-term strategy that has been most influenced by sustainability and climate change is the global sustainability goals we have set, which cover energy, GHG emissions, waste, and water withdrawals.

vii. Integrating sustainability and climate change into our business strategy has allowed us to gain strategic advantage through our commitment to developing adhesive solutions in support of the sustainability goals of our customers. And by making our customers' products and processes more sustainable, we can make an even bigger impact throughout the entire value chain.

C4. Targets and performance

C4.1

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

Intensity target

C4.1b

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

Target reference number

Int 1

Year target was set

2015

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Metric tons CO₂e per metric ton of product

Base year

2014

Intensity figure in base year (metric tons CO₂e per unit of activity)

192

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2025

Targeted reduction from base year (%)

20

Intensity figure in target year (metric tons CO₂e per unit of activity) [auto-calculated]

153.6

% change anticipated in absolute Scope 1+2 emissions

18.4

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO₂e per unit of activity)

185

% of target achieved [auto-calculated]

18.2291666667

Target status in reporting year

Underway

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

Please explain (including target coverage)

H.B. Fuller's voluntary goal to reduce greenhouse gas emissions per metric ton production by 20% by 2025, with a 2014 base year, is complemented by our voluntary goal to reduce total energy use per metric ton production by 20% by 2025, with a 2014 base year.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2015

Target coverage

Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency
kWh

Target denominator (intensity targets only)

metric ton of product

Base year

2014

Figure or percentage in base year

632

Target year

2025

Figure or percentage in target year

506

Figure or percentage in reporting year

604

% of target achieved [auto-calculated]

22.2222222222

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, this energy target is an input to our GHG reduction target.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This target applies to our global operations; no geographies, business units, or products are excluded.

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	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	10	800
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings
Lighting

Estimated annual CO₂e savings (metric tonnes CO₂e)

58

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

6,600

Investment required (unit currency – as specified in C0.4)

28,420

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller plant in Melbourne, Australia has replaced high wattage lights with the latest LED technology and installed motion sensors in the factory and warehouse to increase the building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings
Other, please specify
redesigning parts of the condensate loop in the steam boiler

Estimated annual CO₂e savings (metric tonnes CO₂e)

180

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

339,000

Investment required (unit currency – as specified in C0.4)

28,402

Payback period

<1 year

Estimated lifetime of the initiative

>30 years

Comment

The H.B. Fuller manufacturing plant in Luneburg, Germany has redesigned the condensation loop in the boiler room to increase building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Other, please specify

update steam system

Estimated annual CO2e savings (metric tonnes CO2e)

293

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

30,510

Investment required (unit currency – as specified in C0.4)

12,950

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller manufacturing plant in Cairo, Egypt has replaced and modified their steam system to increase building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Other, please specify

update steam system

Estimated annual CO2e savings (metric tonnes CO2e)

20

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

7,100

Investment required (unit currency – as specified in C0.4)

20,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller manufacturing plant in Guangzhou, China has replaced and modified their steam system to increase building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Other, please specify

update steam system

Estimated annual CO2e savings (metric tonnes CO2e)

42

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

14,690

Investment required (unit currency – as specified in C0.4)

4,360

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

The H.B. Fuller manufacturing plant in Nienburg, Germany has replaced their cooling water circulation system pumps to increase building energy efficiency.

Initiative category & Initiative type

Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

39

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

25,990

Investment required (unit currency – as specified in C0.4)

15,320

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

The H.B. Fuller manufacturing plant in Nienburg, Germany has reduced the machine operating time to increase the energy efficiency of the production processes.

Initiative category & Initiative type

Energy efficiency in buildings
Other, please specify
higher rationalization of capacitor banks

Estimated annual CO2e savings (metric tonnes CO2e)

62

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

9,266

Investment required (unit currency – as specified in C0.4)

77,000

Payback period

4-10 years

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller plant in Pune, India has increased the rationalization of the capacitor banks to increase the building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings

Other, please specify

replacement of pumps in cooling water circulation system

Estimated annual CO2e savings (metric tonnes CO2e)

74

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

33,900

Investment required (unit currency – as specified in C0.4)

74,580

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller plant in Dukinfield, UK has upgraded the cooling tower pumps for the water circulation system to increase the building energy efficiency.

Initiative category & Initiative type

Energy efficiency in buildings
Other, please specify
optimizing air treatment process

Estimated annual CO2e savings (metric tonnes CO2e)

30

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

6,780

Investment required (unit currency – as specified in C0.4)

2,260

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

The H.B. Fuller plant in Pirmasens, Germany has optimized the contaminated air volumes sent for thermal oxidation within their post-combustion plant to increase the building energy efficiency.

Initiative category & Initiative type

Low-carbon energy generation
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

0

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

15,000

Investment required (unit currency – as specified in C0.4)

300,000

Payback period

16-20 years

Estimated lifetime of the initiative

>30 years

Comment

Approximately 400 solar panels have been installed on the roof of H.B. Fuller's global headquarters (St. Paul Willow Lake), creating a 110 kW AC system that is expected to generate nearly 5% of the energy our campus uses, or approximately 167,000 kWh per year. This was the first solar project on the corporate buildings, carried out in conjunction with one of our largest new energy customers. The \$300,000 investment was just the start; subsequent steps are to extend this renewable energy solution across the rest of the complex.

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

Method	Comment
Financial optimization calculations	The primary driver of investment in emissions reduction activities is financial optimization of production.

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

Adhesives are everywhere, and while they are a small part of the products they hold together, they improve the performance of everyday items from cell phones and garage doors to food packaging and disposable diapers. Adhesives also play a significant role in downstream sustainability. We work closely with industries and customers to develop adhesive solutions in support of their sustainability goals. By making our customers' products and processes more sustainable, we can make an even bigger impact

throughout the entire value chain. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, reduce energy consumption and waste, and create clean energy. They enable the production of products that promote sustainable practices, such as water filters and LED lightbulbs. Additionally, our reinforcing tapes and strings allow packaging manufacturers to use less material in their packaging products, thus using fewer raw material inputs. Our reactive hot melt adhesives for flat lamination enable more efficient manufacturing by reducing waste and improving throughput. Used in a variety of applications, including flooring and doors, their high green strength allows customers to move from lamination to secondary manufacturing without interruption. The result is reduced cycle times, increased output, and energy conservation. Also, through a wide selection of trusted solutions, we are helping manufacturers create long lasting, energy efficient windows for any type of design and application. Our sealants are specifically formulated to form a proven, long lasting and energy efficient seal in concert with structural foam spacer products. Our low application temperature hot melt sealants provide all the benefits of a standard hot melt, such as quick handling strength, working flexibility, and durable, but also significantly reduce energy consumption translating to direct carbon dioxide savings, provide improved efficiency, and are safer for operators. Finally, we have adhesives specifically designed to assemble key pieces of renewable energy structures, such as solar PV's, wind turbines, and battery energy storage systems. These offerings enable our customers to avoid greenhouse gas emissions by creating renewable energy or selling the device that creates the renewable energy to their value chain.

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

Estimations of product impacts

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

Comment

Specifically, our products accomplish the following: Scope 1 and 2 emissions are reduced through reductions in energy use during production; Scope 3 emissions are reduced through a variety of means, including reductions in raw materials inputs, reduced transport weight, and returnable packaging and waste disposal (in production and by the end user). For example, we are the global leader in adhesive core technology and enable our customers to produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores require less material to produce, which results in material savings, less energy consumption and less end-product waste. Additionally, thinner cores are lighter, which reduces fuel use in shipping. Since absorbent hygiene products are being recognized as a key contributor to household waste, enabling this trend of thinner cores will significantly reduce landfilled waste.

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, 2014

Base year end

December 31, 2014

Base year emissions (metric tons CO₂e)

84,089

Comment

Scope 2 (location-based)

Base year start

January 1, 2014

Base year end

December 31, 2014

Base year emissions (metric tons CO₂e)

101,327

Comment

Scope 2 (market-based)

Base year start

January 1, 2014

Base year end

December 31, 2014

Base year emissions (metric tons CO₂e)

108,584

Comment

C5.2

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

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)

77,629

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

98,440

Scope 2, market-based (if applicable)

99,736

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?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

Several former production plants that are either vacant or have limited use are excluded from the Scope 1 and 2 inventory.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Emissions are not relevant

Explain why this source is excluded

This source is excluded because these facilities are either completely vacant or only used a few days per year, resulting in very low emissions. We estimate that these sources represent less than 1% of our Scope 1 and 2 inventory.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant but has not yet been calculated.

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant but has not yet been calculated.

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

29,558

Emissions calculation methodology

Emissions calculations are based on the amount of each energy type consumed, such as electricity or natural gas. Consumption of each fuel type is multiplied by the appropriate emissions factor for the three activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US, and on UK Defra Guidelines for countries outside of the US. Emission factors for T&D losses are location-based and taken from the US EPA's eGRID database for the US, and from UK Defra Guidelines for other countries. GWPs are IPCC Fourth Assessment Report (AR4 - 100 year).

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

0

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant but has not yet been calculated.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

28,570

Emissions calculation methodology

Emissions in this category include those that result from landfilling or incineration of waste from our manufacturing processes. This figure excludes wastewater treatment and emissions avoided as a result of recycling. Data regarding the amount, type and disposal method of waste are collected from facility managers at primary manufacturing facilities. Emissions from waste are calculated using methodologies and emission factors from the EPA's Waste Reduction Model (WARM). This model calculates emissions based on a life-cycle analysis, including emissions from the long-term decomposition of waste in a landfill or from upstream sources/sinks. GWPs are IPCC Fourth Assessment Report (AR4 - 100 year).

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

0

Please explain

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

3,544

Emissions calculation methodology

Business travel emissions calculations are based on data regarding air travel, rental cars, and hotel stays. All data were provided by our travel agency. Emissions were calculated using emission factors and methodologies from the Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting, EPA Emission Factors for Greenhouse Gas Inventories, UK Defra in Annex 13 of its "2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting", and Climate Leaders Business Travel and Commuting Guidance. GWPs are IPCC Fourth Assessment Report (AR4 - 100 year), except for factors from the UK Defra Annex 13, which uses GWPs from the IPCC Second Assessment Report (SAR - 100 year).

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

0

Please explain

Employee commuting

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant, but has not yet been calculated.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Based on the operational control approach that defines our inventory boundary, emissions from all upstream leased assets are included in our Scope 1 and Scope 2 emissions totals, therefore they constitute 0% of our scope 3 emissions.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant, but has not yet been calculated.

Processing of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant, but has not yet been calculated.

Use of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant, but has not yet been calculated.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant, but has not yet been calculated.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We do not own any facility space that is leased to other tenants. Therefore, emissions from downstream leased assets constitute 0% of our scope 3 emissions.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

We do not have franchises; therefore, emissions from franchises are not relevant for us and constitute 0% of our scope 3 emissions.

Investments

Evaluation status

Relevant, not yet calculated

Please explain

Based on our understanding of Scope 3 guidance, this category is likely relevant but has not yet been calculated.

Other (upstream)

Evaluation status

Please explain

Other (downstream)

Evaluation status

Please explain

C6.7

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

No

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

0.000084

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

176,069

Metric denominator

unit total revenue

Metric denominator: Unit total

2,095,000,000

Scope 2 figure used

Location-based

% change from previous year

37

Direction of change

Increased

Reason for change

Adjusted emissions decreased about 1% and revenue decreased 28%, which resulted in emissions per revenue increasing 37% from 2018 to 2019. Our emissions reductions activities influenced this trend, resulting in emissions savings of 800 metric tons CO₂e from these projects. Projects in 2019 included reducing machine operating time to increase production efficiencies, installing updated steam systems, redesigning the condensate loop in the boiler room installing LED lighting technology, replacing cooling water circulation system pumps, optimizing the air treatment process, as well as designing a higher rationalization of capacitor banks.

Intensity figure

43

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

176,069

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

4,050

Scope 2 figure used

Location-based

% change from previous year

57

Direction of change

Increased

Reason for change

Adjusted emissions decreased about 1% and FTEs decreased 37%, which resulted in emissions per FTE increasing 57% from 2018 to 2019. Our emissions reductions activities influenced this trend, resulting in emissions savings of 800 metric tons CO₂e from these projects. Projects in 2019 included reducing machine operating time to increase production efficiencies, installing updated steam systems, redesigning the condensate loop in the boiler room installing LED lighting technology, replacing cooling water circulation system pumps, optimizing the air treatment process, as well as designing a higher rationalization of capacitor banks.

Intensity figure

0.185

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

176,069

Metric denominator

metric ton of product

Metric denominator: Unit total

953,523

Scope 2 figure used

Location-based

% change from previous year

4

Direction of change

Increased

Reason for change

Adjusted emissions decreased about 1% and production decreased 4%, which resulted in emissions per metric ton of product increasing 4% from 2018 to 2019. Our emissions reductions activities influenced this trend, resulting in emissions savings of 800 metric tons CO₂e from these projects. Projects in 2019 included reducing machine operating time to increase production efficiencies, installing updated steam systems, redesigning the condensate loop in the boiler room installing LED lighting technology, replacing cooling water circulation system pumps, optimizing the air treatment process, as well as designing a higher rationalization of capacitor banks.

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 CO ₂ e)	GWP Reference
CO ₂	73,567	IPCC Fourth Assessment Report (AR4 - 100 year)
CH ₄	47	IPCC Fourth Assessment Report (AR4 - 100 year)
N ₂ O	86	IPCC Fourth Assessment Report (AR4 - 100 year)
	3,929	IPCC Fourth Assessment Report (AR4 - 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 CO ₂ e)
United States of America	56,060
China	3,515
Germany	7,012
Australia	970
India	995
Brazil	2,030
Egypt	881
Argentina	811
Other, please specify Rest of World	5,355

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 CO ₂ e)
Hygiene, Health & Consumable Adhesives	60,088
Construction Adhesives	4,016
Engineering Adhesives	11,350
Corporate	2,175

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO₂e.

	Gross Scope 1 emissions, metric tons CO ₂ e	Comment
Chemicals production activities	77,629	All scope 1 emissions are associated with chemicals production activities.

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America	49,410	48,796	99,897	0
China	22,699	17,006	29,656	0
Germany	14,373	21,545	32,139	0
Australia	2,086	2,086	2,294	0
India	2,332	2,332	2,810	0

Brazil	265	265	3,561	0
Egypt	1,120	1,120	2,447	0
Argentina	823	823	2,108	0
Other, please specify Rest of World	5,332	5,763	19,551	0

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 (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)
Hygiene, Health & Consumable Adhesives	44,040	41,235
Construction Adhesives	12,787	12,788
Engineering Adhesives	38,002	42,100
Corporate	3,611	3,613

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO₂e.

	Scope 2, location-based, metric tons CO ₂ e	Scope 2, market-based (if applicable), metric tons CO ₂ e	Comment
Chemicals production activities	98,440	99,736	

C-CH7.8

(C-CH7.8) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Purchased feedstock	Percentage of Scope 3, Category 1 tCO ₂ e from purchased feedstock	Explain calculation methodology

C-CH7.8a

(C-CH7.8a) Disclose sales of products that are greenhouse gases.

	Sales, metric tons	Comment
Carbon dioxide (CO ₂)	0	H.B. Fuller does not sell this product
Methane (CH ₄)	0	H.B. Fuller does not sell this product
Nitrous oxide (N ₂ O)	0	H.B. Fuller does not sell this product
Hydrofluorocarbons (HFC)	0	H.B. Fuller does not sell this product
Perfluorocarbons (PFC)	0	H.B. Fuller does not sell this product
Sulphur hexafluoride (SF ₆)	0	H.B. Fuller does not sell this product
Nitrogen trifluoride (NF ₃)	0	H.B. Fuller does not sell this product

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 CO ₂ e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	In the reporting year, emissions did not change, therefore they changed by 0 tons of CO ₂ e through renewable energy consumption. Our reported total Scope 1 and 2 emissions in the prior year were 162454, therefore, we arrived at a change of 0% through $(0 / 162454 * 100) = 0\%$ (i.e., emissions did not change).
Other emissions reduction activities	800	Decreased	0.5	In the reporting year, emissions decreased by 800 tons of CO ₂ e through emissions reduction activities including efficiency upgrades to lighting, steam systems, and cooling tower pumps. Our reported total Scope 1 and 2 emissions in the prior year were 162454,

				therefore, we arrived at a change of -0.5% through $(-800 / 162454 * 100) = -0.5\%$ (i.e., emissions decreased by 0.5%).
Divestment				
Acquisitions				
Mergers				
Change in output	6,331	Increased	3.9	In the reporting year, emissions increased by 6331 tons of CO ₂ e through a change in output. Our reported total Scope 1 and 2 emissions in the prior year were 162454, therefore, we arrived at a change of 3.9% through $(6331 / 162454 * 100) = 3.9\%$ (i.e., emissions increased by 3.9%).
Change in methodology	14,846	Increased	9.1	In the reporting year, emissions increased by 14846 tons of CO ₂ e through improved data quality. Our reported total Scope 1 and 2 emissions in the prior year were 162454, therefore, we arrived at a change of 9.1% through $(14846 / 162454 * 100) = 9.1\%$ (i.e., emissions increased by 9.1%).
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other	6,762	Decreased	4.2	In the reporting year, emissions decreased by 6762 tons of CO ₂ e through other influences. Our reported total Scope 1 and 2 emissions in the prior year were 162454, therefore, we arrived at a change of -4.2% through $(-6762 / 162454 * 100) = -4.2\%$ (i.e., emissions decreased by 4.2%).

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?

Location-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 undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	No

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 (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	381,296	381,296

Consumption of purchased or acquired electricity		0	190,926	190,926
Consumption of purchased or acquired heat		0	1,450	1,450
Consumption of purchased or acquired steam		0	1,303	1,303
Consumption of purchased or acquired cooling		0	784	784
Total energy consumption		0	575,757	575,757

C-CH8.2a

(C-CH8.2a) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

	Heating value	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	381,296
Consumption of purchased or acquired electricity		190,926
Consumption of purchased or acquired heat		1,450
Consumption of purchased or acquired steam		1,303
Consumption of purchased or acquired cooling		784
Total energy consumption		575,757

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	Yes
Consumption of fuel for the generation of cooling	No

Consumption of fuel for co-generation or tri-generation

No

C8.2c

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

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

290,637

MWh fuel consumed for self-generation of heat

87,191

MWh fuel consumed for self-generation of steam

203,446

Emission factor

117

Unit

lb CO2e per million Btu

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

9,433

MWh fuel consumed for self-generation of heat

2,830

MWh fuel consumed for self-generation of steam

6,603

Emission factor

164

Unit

lb CO₂e per million Btu

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Propane Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2,085

MWh fuel consumed for self-generation of heat

626

MWh fuel consumed for self-generation of steam

1,460

Emission factor

139

Unit

lb CO₂e per million Btu

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

4,424

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Emission factor

10

Unit

lb CO2 per gallon

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1,644

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Emission factor

19

Unit

lb CO2 per gallon

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Diesel

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

6,720

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Emission factor

23

Unit

lb CO2 per gallon

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Fuels (excluding feedstocks)

Ethylene

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

66,354

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

Emission factor

146

Unit

lb CO2e per million Btu

Emissions factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

C8.2e

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

Sourcing method

None (no purchases of low-carbon electricity, heat, steam or cooling)

Low-carbon technology type

Country/region of consumption of low-carbon electricity, heat, steam or cooling

MWh consumed accounted for at a zero emission factor

Comment

C-CH8.3

(C-CH8.3) Does your organization consume fuels as feedstocks for chemical production activities?

No

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

604

Metric numerator

Total energy use

Metric denominator (intensity metric only)

metric ton of product

% change from previous year

3

Direction of change

Increased

Please explain

Description

Waste

Metric value

44

Metric numerator

Total solid and hazardous waste disposed

Metric denominator (intensity metric only)

metric ton of product

% change from previous year

4

Direction of change

Increased

Please explain

Description

Other, please specify

Water withdrawals

Metric value

343

Metric numerator

Total water withdrawals

Metric denominator (intensity metric only)

metric ton of product

% change from previous year

3

Direction of change

Decreased

Please explain

C-CH9.3a

(C-CH9.3a) Provide details on your organization's chemical products.

Output product

Polymers

Production (metric tons)

196,643

Capacity (metric tons)

Direct emissions intensity (metric tons CO₂e per metric ton of product)

0.062

Electricity intensity (MWh per metric ton of product)

0.137

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

H.B. Fuller produces 196,643 metric tons of polymers.

Output product

Other, please specify
Adhesives

Production (metric tons)

756,880

Capacity (metric tons)

Direct emissions intensity (metric tons CO₂e per metric ton of product)

0.109

Electricity intensity (MWh per metric ton of product)

0.208

Steam intensity (MWh per metric ton of product)

0

Steam/ heat recovered (MWh per metric ton of product)

0

Comment

H.B. Fuller produces 756,880 metric tons of adhesives.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	

C-CH9.6a

(C-CH9.6a) Provide details of your organization's investments in low-carbon R&D for chemical production activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Product redesign	Large scale commercial deployment	≤20%	4,345,500	H.B. Fuller is a diverse business and we will track investments in low-carbon R&D for chemical production activities in more detail in future years. The less than 20% figure reported encompasses all sustainability R&D investment, including energy and consumption saving solutions, low-temperature adhesives, easily washable adhesives, plastic to paper, bio-based and compostable adhesives plus enabling solutions in insulating glass, solar, wind and other renewable energy sources. Innovative adhesive solutions can positively affect sustainability so we expect this percent to increase in

				future years. The R&D investment cost of \$4,345,500 is 3% of our estimated total revenue from sustainability-related products. This is an estimate based on current research and development cost allocation to sustainability related projects.
--	--	--	--	---

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, and we do not currently 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

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

50

% total procurement spend (direct and indirect)

37

% of supplier-related Scope 3 emissions as reported in C6.5

Rationale for the coverage of your engagement

The quality system questionnaire is sent out to sustained global ERP suppliers, which represents approximately 50% of our total suppliers. These suppliers are selected because they represent the majority of our suppliers and include our largest strategic suppliers. The 37% of total procurement spend only reflects spend with strategic suppliers; because more than just strategic suppliers were invited, the % engaged by spend is actually higher than what is reported. Suppliers are asked to complete the self-assessment once every 2 years, which allows us to monitor changes in programs and performance over time. Sustainability related questions include certifications, such as ISO50001. The results of the assessment help inform whether an audit is required.

Impact of engagement, including measures of success

A total of 670 suppliers responded to our quality system questionnaire, for an 18% response rate. H.B. Fuller measures of success include: (1) number and type of suppliers completing the self-assessment, (2) improvement in programs and performance over time. The execution of the initial survey was informational; however, we have plans to establish a risk assessment process and clear actions that should be taken against the survey results (description of the impact of this engagement).

Comment

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

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

H.B. Fuller shares information on its sustainability programs and products in a variety of ways. Since 2015, we have published a Global Responsibility Report, which allows us to communicate progress on our sustainability goals, as well as other corporate social responsibility performance and programs. The 2019 Global Responsibility Report can be found here: <https://www.hbfuller.com/en/north-america/about-us/corporate-responsibility/global-responsibility>. This publication is made available to all of our customers, hence the 100% of customers engaged by number. Additionally, we provide details about our products on our website, through product information pages and our blog, GlueTalk. Our engagement is further prioritized based on those customers who reach out to us. Our primary means of engaging with customers on climate change is through on time completion of supply chain questionnaires, scorecards, and/or other requests for sustainability and climate change-related information.

Impact of engagement, including measures of success

We are targeting an ongoing improvement in our CDP Supply Chain score as a measure of our success. We believe sustainability is a system where upstream supply and downstream value are just as important as our individual contribution. To make progress, we continue to work closely with our suppliers, customers, OEMs, and external partners who can provide a deep understanding of environmental issues. Most importantly, we look for ways to create a ripple effect of greater efficiency throughout the value chain.

Type of engagement

Collaboration & innovation

Details of engagement

Other, please specify

Work closely with industries and customers to develop adhesive solutions in support of their sustainability goals

% of customers by number

% of customer - related Scope 3 emissions as reported in C6.5

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

We work closely with hundreds of industries and customers to develop adhesive solutions in support of their sustainability goals. Our engagement is prioritize based on those customers that request specific formulations or applications. We are continually looking for ways to optimize our operations. Our adhesives enable manufacturers to work with more sustainable substrates, reduce material used, improve efficiencies, and reduce energy consumption, GHG emissions, and waste. Not only do we try to reduce our own raw material usage, we also design products that help our customers reduce their raw materials usage. For example, we have developed hot melt adhesive technologies that produce thinner and more comfortable disposable hygiene products with minimized environmental impact, enhanced performance, optimized shelf space and lower transport costs. Thinner cores require less material to produce, which results in material savings, less energy consumption and less end-product waste.

Impact of engagement, including measures of success

Measures of success vary greatly depending on the customer and the product. An example of how we measure success is in the reduction in environmental impact of our products, such as raw materials use or energy consumption during manufacturing. Manufacturing processes are energy intensive. One way we make a significant impact is through technologies that improve our customers' operational efficiency. For example, Advantra® LT 9110 has an application temperature of 100 to 110 degrees Celsius, which is up to 44% lower than standard hot melt adhesives so reducing the necessary energy to apply the adhesive by upwards of 20%.

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?

Trade associations

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

FEICA

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

FEICA, the Association of European Adhesives and Sealants Manufacturers, supports and promotes the industry's interests by constructively influencing EU legislation and public opinion. With respect to climate change legislation, FEICA supports the widespread adoption of the Principles of Sustainable Development, which will create value for its members and contribute to the growth of the industry through mitigating potential risks associated with climate change. FEICA's sustainability vision is that "the adhesive and sealant industry is committed to enabling a growing population to live a better life and to use the planet's resources more responsibly and efficiently." To achieve this vision, FEICA is focused on energy efficiency, efficient use of raw materials, and safeguarding human health. FEICA actively supports efforts to improve product efficiency and circularity to help create a more sustainable society.

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

H.B. Fuller actively supports FEICA's positions and directly influences potential legislation as well as public opinion. H.B. Fuller engages in FEICA's sustainable development program, which encourages member companies to engage with FEICA's sustainable development vision, share best practices, and raise awareness of the adhesive and sealant industry's contribution to sustainable practices. Several H.B. Fuller employees serve on FEICA working committees related to sustainability. As an example, H.B. Fuller helped communicate FEICA's position on sustainable development, which includes action on climate change, through a position paper that outlines strategies for delivering a successful, innovative, and sustainable adhesives industry.

Trade association

EDANA

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EDANA is the international association for the nonwovens and related industries, and has served its members for more than 40 years. EDANA supports its members in

several ways including: monitoring and analyzing sustainability and environment policies, trends and developments at global, EU, and national scales; promoting the value and benefits of nonwovens and related products, in particular within the frame of EDANA's Sustainability Charter and Sustainability Strategy; and providing technical, sustainability, and environmental expertise on key topics such as waste management and raw materials / energy efficiency. EDANA has committed to offer products that provide real benefits and solutions for individuals and for society more broadly, to minimize environmental impact of the industry's manufacturing, distribution, and administrative activities, and to operate responsibly and successfully offer employment, generate innovation, build partnerships, and create and preserve long-term positive relationships with stakeholders.

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

H.B. Fuller is an active participant on the Sustainability and Environmental Committee of EDANA. The Sustainability and Environmental Committee is responsible for providing strategic guidance to EDANA on sustainability and environmental matters as they relate to nonwovens and related products such as Absorbent Hygiene Products (AHPs). As an active participant in this committee, H.B. Fuller supports the positions of EDANA with regard to AHPs and value chain carbon footprinting so that the industry and stakeholders can better understand the impacts of the industry's products, as well as how to improve them over time.

Trade association

American Chemistry Council

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

American Chemistry Council, formerly known as the Manufacturing Chemists' Association and then as the Chemical Manufacturers' Association, is an industry trade association for American chemical companies. Their mission is to deliver value to our members through advocacy, using best-in-class member engagement, political advocacy, communications and scientific research. They advocate for public policies that support the creation of groundbreaking products to improve lives, protect our environment and enhance the economic vitality of communities.

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

The President and CEO of H.B. Fuller was approved to serve on the ACC board of directors, starting on January 1, 2020 and ending on December 31, 2021.

Trade association

IVK

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

IVK Europe represents the interests of European companies producing soft or rigid PVC films and sheets as well as PVC coated fabrics. IVK Europe's 19 company members create an annual turnover of close to EUR 2 billion and more than 12,000 jobs. The association works closely together with VinylPlus, the Voluntary Commitment for sustainable development of the European PVC industry.

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

H.B. Fuller is one of the biggest contributors to IVK with regards to participation as well as financial support.

In 2019, H.B. Fuller had 7 elected representatives in all committees, like General board, Technical board, all relevant technical committee's (Paper & Packaging, Tapes & labels, Wood, Footwear, Structural Bonding) as well as the task force for circular economy. The primary goal of these groups was to help the industry embrace the challenges on circular economy and the European Green Deal. The European Green Deal is focused on achieving carbon neutrality by 2050. As an example, the Environmental Product Declarations (EPD's) were initially created by the IVK in Germany for the Construction market segment. The EPD's were fully adopted by FEICA and brought to the attention throughout Europe. EPD's include life cycle assessment (LCA), according to defined standards, and can be used for the assessment of buildings.

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?

H.B. Fuller approaches engagement with all trade associations on a case-by-case basis. At this time, the trade associations with which we associate have strategies and policies that are consistent with our overall climate change strategy. Should this change, we would first look to our customers to aid in determining if changes in trade association policies are appropriate for our industry. If not, we would work with the trade association to improve the policy to better reflect our goals and those of our customers. Given how we approach engagement, if either our position or that of the trade associations we engage with changes, we are able to address any differences immediately.

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 sustainability report

Status

Complete

Attach the document

 hb-fuller-2019-global-responsibility-report.pdf

Page/Section reference

Entire document

Content elements

Governance
Strategy
Emissions figures
Emission targets
Other metrics

Comment


Publication

In mainstream reports

Status

Complete

Attach the document

 2019 H.B. Fuller Annual Report (2).pdf

Page/Section reference

p. 6-12

Content elements

Risks & opportunities

Comment

C15. 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.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Operating Officer (COO)	Chief Operating Officer (COO)

Submit your response

In which language are you submitting your response?

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response		Public

End of Report