Tennant Company - Climate Change 2022

C0. Introduction

C0.1

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

Founded in 1870 by George H. Tennant, Tennant Company ("Tennant, the Company, we, us, or our"), headquartered in Eden Prairie, Minnesota, is a world leader in the design, manufacture, and marketing of solutions that help create a cleaner, safer, and healthier world. Tennant was incorporated as a Minnesota corporation in 1909 and began as a one-person woodworking business, eventually evolving into a successful wood flooring and wood products company and finally into a manufacturer of floor cleaning equipment. Throughout its history, the Company has focused on advancing our industry by aggressively pursuing new technologies and creating a culture that celebrates innovation.

Today, the Company has 11 global manufacturing locations and operates in three geographic areas, the Americas, Europe, Middle East, Africa (EMEA), and Asia Pacific (APAC). We aggregate our operating segments into one reportable segment that consists of the design, manufacture, sale, and servicing of products used primarily in maintaining surfaces. The Company is committed to developing innovative and sustainable solutions that help our customers clean spaces more effectively with high-performance solutions that minimize waste, reduce costs, improve safety, and further sustainability goals.

The Company is focused on achieving operating efficiencies as we continue to innovate and invest in our product portfolio to deliver value to our customers and drive profitable growth for our shareholders.

The Company offers products and solutions consisting of mechanized cleaning equipment for both industrial and commercial use, detergent-free and other sustainable cleaning technologies, aftermarket parts and consumables, equipment maintenance and repair services, and business solutions such as financing, rental and leasing programs, and machine-to-machine asset management solutions. The Company is committed to developing cleaning technologies, including autonomous solutions, which increase cleaning productivity. We have a strong brand presence in the global markets we serve, offering both premium and mid-tier products for each region to meet customer needs.

The Company's products are used in many environments, including retail establishments, distribution centers, factories and warehouses, public venues such as arenas and stadiums, office buildings, schools and universities, hospitals and clinics, parking lots and streets, and more. The Company markets its offerings under the following brands: Tennant®, Nobles®, Alfa Uma Empresa Tennant™, IRIS®, VLX™, IPC brands including, Gansow, Soteco, and Portotecnica, Gaomei and Rongen brands as well as private-label brands. The Company's more than 40,000 customers include contract cleaners to whom organizations outsource facilities maintenance, as well as businesses that perform facilities maintenance themselves. The Company reaches these customers through the industry's largest direct sales and service organization and through a strong and well-supported network of authorized distributors worldwide.

The Company's global field service network is the most extensive in the industry. We sell products directly in 15 countries and through distributors in more than 100 countries.

The 2021 Form 10-K (Annual Report) filed February 24, 2022, for the period of January 1, 2021, to December 31, 2021, is available here: https://investors.tennantco.com/reports/annual-reports/default.aspx.

The 2022 Proxy Statement, Schedule 14A (Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934) filed March 17, 2022, is available here: https://investors.tennantco.com/reports/annual-reports/default.aspx.

In 2021, the Company initiated a refresh of our current sustainability strategy. There were many drivers for refreshing the Company's sustainability strategy, including the need to re-evaluate our science-based greenhouse gas emissions reduction targets. Since setting two science-based targets (SBT) through the Science Based Targets initiative (SBTi) in 2018, the Company has grown significantly through acquisitions of IPC Group (in 2017) and Gaomei (in 2019) and achieved our Scope 1 & 2 target in 2020. We were unable to set new targets in 2021 due to the abnormal business activities of the global pandemic in 2020. We needed a more recent and accurate baseline year to develop new targets that would reflect the relatively normal business activity. We could not use any prior years for our base year because of the 2019 acquisition of Gaomei. Therefore, we intend to submit our new SBT to SBTi for validation by the end of this year.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	Yes	1 year

C0.3

(C0.3) Select the countries/areas in which you operate.

Australia
Belgium
Brazil
Canada
China
France
Germany
India
Italy
Japan
Mexico
Netherlands
Norway
Portugal
Spain
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

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

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	TNC
Yes, an ISIN code	US8803451033
Yes, a CUSIP number	880345103

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board-level committee	Climate-related issues are within the scope of responsibility of Tennant Company's Board of Directors Governance Committee. The Governance Committee charter includes oversight of the Company's sustainability programs, policies, and practices, including environmental, social, and corporate governance (ESG). The Governance Committee charter is publicly available on our investor website: https://investors.tennantco.com/governance/governance-documents/default.aspx. This committee is also responsible for reviewing the annual Sustainability Report. The Governance Committee reviewed the Sustainability Report (FY2020) in June 2021. The Governance Committee receives an annual update from the Director of Sustainability and Chief Administrative Officer on progress toward sustainability and ESG targets. There is also the potential to discuss pressing matters on an as-needed basis. In April of 2021, the annual Sustainability and ESG update was presented. An example of a climate-related decision made by the Governance Committee was to move forward with a sustainability strategy refresh, which includes re-evaluating the Company's greenhouse gas emissions reduction targets and other climate-related goals and activities. There were many drivers for refreshing the Company's sustainability strategy, including the need to reevaluate our science-based greenhouse gas emissions reduction targets. Since setting two science-based targets (SBT) through the Science Based Targets initiative (SBTi) in 2018, the Company has grown significantly through acquisitions. We achieved our current Scope 1 & 2 target in 2020. We are still reporting annual Scope 1 & 2 emissions from our operations and value chain because we remain committed to driving progress and will continue to work to reduce our greenhouse gas emissions throughout the process of setting our new SBTs.

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	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	Our Board is actively engaged in helping to advance the strategy of the company, ensuring that the Company's talent and resources are aligned with the strategy. Within the Board of Directors, the Governance Committee oversees the Company's sustainability strategy, programs, policies, and practices, including environmental, social, and corporate governance (ESG), including climate-related issues. This committee is also responsible for reviewing the annual Sustainability Report. The Governance Committee reviewed the Sustainability Report (FY2020) in June 2021. The Governance Committee meets quarterly and receives an annual update from the Director of Sustainability and Chief Administrative Officer on progress toward sustainability and ESG targets. There is also the potential to discuss pressing matters as they come up. In April of 2021, the annual Sustainability and ESG update was presented. The Governance Committee reviewed and approved the enterprise plan to refresh the Company's sustainability strategy and commitments, which includes climate-related goals and activities.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	Within the Board of Directors, the Governance Committee oversees the company's sustainability strategy, programs, policies, and practices, including environmental, social, and corporate governance (ESG), including climate-related issues. Members of our Governance Committee have experience in sustainability, environmental health and safety (EHS), shareholder activism, and other sustainability and climate-related issues. Their experience was gained both through their professional work and other corporate board services. The Director of Sustainability and SVP, Chief Administrative Officer, present to the Board of Directors Governance Committee at least once a year to update on the progress toward sustainability and ESG targets, including climate-related issues. Part of this annual presentation includes educational and level-setting information. In April 2021, the annual Sustainability and ESG update was presented. The presentation provided an overview of what ESG is and what it means to the Company. It also included information on the various ESG ratings the Company participates in, our corresponding score, what these scores mean, and opportunities to improve our ESG practices. Additionally, the Governance Committee reviews the annual Sustainability Report, which includes progress toward greenhouse gas emissions reduction targets and other climate-related information. The Governance Committee reviewed the 2021 Sustainability Report (FY2020) in June 2021.	<Not Applicable>	<Not Applicable>

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)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly
Other C-Suite Officer, please specify (Chief Administrative Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other committee, please specify (Senior Management Team (all 6 C-suite leaders))	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly

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).

In 2021, the Director of Sustainability began reporting to the Chief Administrative Officer (CAO), who in turn reports directly to the President and CEO. As such, the CAO oversees Tennant Company's sustainability and ESG program and is the most senior individual below the CEO with direct oversight of climate-related activities. This oversight includes meeting regularly with the Director of Sustainability, advocating for action toward climate-related objectives and goals across the Company, and being responsible for the Sustainability team's performance. The CAO has the authority, influence, and resources to act on climate-related risks and opportunities in alignment with our corporate strategy and goals.

This change in reporting structure better integrated the Sustainability team and related initiatives into the organization, allowing for more substantial alignment with other organizational priorities, strategies, and teams. With the Director of Sustainability reporting directly to the C-Suite, the organization understands the importance of our sustainability and ESG commitments, including our greenhouse gas (GHG) reduction goals.

The Senior Management Team (SMT), which consists of the company's C-Suite leaders (CTO, CFO, CLO, CEO, CCO, CAO), is responsible for enterprise performance and strategy, including sustainability and ESG initiatives; this includes climate-related initiatives. This group assigns enterprise accountability and allocates resources to implement sustainability and ESG strategies.

The Director of Sustainability oversees the Sustainability team, which is responsible for helping define the enterprise sustainability and ESG agenda, prioritizing issues, and driving impact. The team provides dedicated oversight of strategy, initiatives, and goals. The team collaborates with stakeholders to enable enterprise integration and progress.

The Director of Sustainability monitors climate-related issues within Tennant Company. In 2021, as part of our sustainability strategy refresh, we initiated a materiality assessment to ensure that we effectively track all relevant climate-related issues. Through our annual operating plan review, which includes capital investment projects, climate-related issues are also addressed by direct engagement with the senior management team on relevant initiatives and projects.

Lastly, Tennant Company monitors external climate-related issues and trends by participating in external organizations, including SBTi, the Sustainable Growth Coalition, the University of Minnesota Institute on the Environment, and CDP.

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
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	Tennant Company's executive compensation program is designed to align our short- and long-term operating goals and the interests of our shareholders. We seek to offer a comprehensive compensation package that is competitive with those of similarly sized U.S. durable goods manufacturing companies. Our compensation programs take into account that an executive's actual compensation level may be greater or less than average competitive levels based on our annual and long-term financial performance against pre-established goals, the individual's performance, and the individual's scope of responsibilities. Specifically, our compensation programs adhere to the following design philosophy and principles: - create a relationship between pay and performance by providing a solid link between our short- and long-term business goals and executive compensation; - attract and retain high-caliber key executive officers who can create long-term financial success for the Company and enhance shareholder return; - motivate executive officers to achieve our goals by placing a significant portion of pay at risk; - align the interests of executive officers with those of our shareholders by providing a significant portion of compensation in stock-based awards; and - discourage risk-taking behavior that would likely have a material adverse effect on the Company. Our vision is "We will lead our global industry in sustainable cleaning innovation that empowers our customers to create a cleaner, safer and healthier world." To achieve this vision, the CEO considers carbon emissions and climate-related issues when considering how to achieve long-term financial success. Science-based targets for emission reduction have been set to increase the probability of long-term financial success. With the increased likelihood of long-term company profitability, the CEO is more likely to see enhanced incentive payments.
Other, please specify (Director of Sustainability)	Monetary reward	Emissions reduction target	In 2021 the Director of Sustainability had performance goals tied to specific objectives and projects in the four sustainability and ESG strategy focus areas. One is Climate: Greenhouse Gas (GHG) Emissions and Energy and includes two GHG emissions reduction targets. Performance goals are defined annually and reviewed at least quarterly.
All employees	Monetary reward	Other (please specify) (Stewardship - Reduce environmental impact)	The APPLAUSE program rewards employees for going above and beyond their assigned duties or tasks. One APPLAUSE award category is 'Stewardship,' which is Tennant Company's core value and one of nine Guiding Principles. We define Stewardship as leaving things in better condition than when we found them. Each year, some APPLAUSE awards for Stewardship reward employee efforts that reduced the Company's environmental impact or achieved other forms of ESG improvement.
All employees	Monetary reward	Other (please specify) (Stewardship - Reduce environmental impact)	Our annual Leading Edge program recognizes employees who have contributed significantly to Tennant Company's success and have demonstrated the behaviors we value most as an organization. The Leading Edge award is the highest form of recognition at Tennant. Employee efforts warrant the Leading Edge award often include elements of good stewardship. The Leading Edge program is recognition based but does include an element of monetary reward that is usually in the form of a three-day trip with a partner/spouse to a destination. Due to COVID safety protocols, the standard trip was replaced by a monetary award in 2021.

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	2	
Medium-term	2	5	
Long-term	5	10	

C2.1b

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

Our finance department and internal audit partner Ernst & Young (EY) each year develop materiality, substantive financial impact, and deficiency reporting thresholds. These thresholds are reviewed annually by the Board of Directors Audit Committee in April and approved. A substantive financial impact is then included as a risk in our annual enterprise risk assessment (ERA). Risks to include in the annual ERA are identified using a methodology that evaluates financial impact, the overall likelihood of that risk occurring, and our management preparedness. The financial impact is assessed on a 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) from USD 0 – USD 5M.

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
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Tennant Company uses an Enterprise Risk Assessment (ERA) process to identify, monitor, and assess the company's short-, medium and long-term risks, including climate-related risks, and prompts the development of strategies to respond to those risks. The ERA is performed annually for the entire Company.

The overall ERA process is led by our internal audit partner, Ernst & Young (EY), who initiates the process by refreshing the enterprise risk assessment framework. The next step is surveying leaders from all geographic areas, product-type business units, and leaders from all business functions. For 2021, approximately 90 senior leaders anonymously participated in the survey.

The risk information from the survey is collected, aggregated, benchmarked against trend information from various sources, and presented to the Board of Directors. A cross-functional team of representatives from relevant business units is responsible for updating the enterprise risk profile. The enterprise risk profile includes rationalizing, prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again.

The 2021 ERA was completed in Q4 and included fourteen top risks/opportunities, nine of which encompass climate-related risks. These nine categories are: supply chain effectiveness; threat & vulnerability management; transportation & logistics; macroeconomic & geopolitical; procurement & inventory; cost control; emerging & disruptive technology; competition; and strategic execution.

In conjunction with the ERA, our Product Regulatory Affairs (PRA) group within the Legal Department is responsible for monitoring responsible material sourcing and product regulatory risks and opportunities. PRA personnel review upcoming and current regulations and then work with product marketing, engineering, and global sourcing teams to determine if and how we will prepare and respond to the new rules.

Additionally, our enterprise-wide Global Positioning Strategy (GPS) identifies and executes on risks and opportunities that fall under the three pillars that comprise the strategy’s frameworks. Which are win where we have a competitive advantage, reduce complexity and build scalable processes, and innovate for profitable growth. Climate-related risks and opportunities are inherent in our approach to achieving these goals. For example, product simplification and innovation are focus areas of this strategy, both of which have inherent climate-related benefits to the business.

Lastly, the Sustainability team manages climate-related risks and opportunities through our carbon reduction initiatives. These initiatives include commitments, goals, plans, SOPs, policies, measurement, data management, internal/external communication, management reviews, and market research. For example, in preparation for the setting of our Science Based Target initiative (SBTi) goal, we identified that the "use of Sold Products" accounted for over 70% of our total emissions. This resulted in setting a goal to reduce carbon emissions from the Use of Sold Products, thereby influencing our future work internally and externally with suppliers, utilities, and customers. Also, in 2021, as part of our sustainability strategy refresh, we initiated a materiality assessment, which included climate-related risks and opportunities.

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	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Current regulation is considered relevant and is included in our annual ERA because we are subject to risks associated with emissions, energy, and other environmental regulations. Additionally, our products are subject to energy efficiency and other regulatory standards. An example of a current regulation risk Tennant Company considered in our annual ERA process is source materials limited due to supply chain issues and not having access to materials that are compliant with current regulations.
Emerging regulation	Relevant, always included	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Emerging regulation is considered relevant and is included in our annual ERA. Because of our global footprint, we are subject to a changing system of commercial, tax, and trade regulations worldwide. Recent years have seen an increase in the discussion and development of laws regarding carbon taxes and emissions trading schemes, trade, tax compliance, labor and safety, and anti-corruption. An example of an emerging regulation risk Tennant Company considered in our annual ERA process is the potential risk of the U.S. EPA and other regulatory entities expanding or creating new engine emissions regulations or substance restriction regulations that would affect our products and services.
Technology	Relevant, always included	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Technology is considered relevant and is included in our annual ERA because of the risks related to lack of product and production innovations which may lead to a competitive disadvantage. An example of a technology-related risk Tennant Company considered in our annual ERA process is not responding to the increasing demand for lower emissions products and services from our customers. Electrification of our products is a priority, and in 2021, 99.1% of units sold were battery-powered or corded electric and had fewer emissions than their internal combustion (IC) counterparts.
Legal	Not relevant, explanation provided	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Climate-related legal risk is not relevant to Tennant Company because no legal risks associated with climate-related litigation claims have been identified that have a substantive financial impact as defined by the ERA process. If an activity is likely to exceed this threshold, it will be included in our next ERA process.
Market	Relevant, always included	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Market risks are considered relevant and are included in our annual ERA because of the risks of competitor products and technologies outperforming ours or not responding to customers' shift in preferences to lower emissions products and services. An example of a market-related risk that Tennant Company considered in our annual ERA process is competition. Competition is based on product features and design, brand recognition, reliability, durability, technology, breadth of product offerings, price, customer relationships, and after-sale service. These features include reduced greenhouse gas (GHG) emissions, less water use, and other environmental attributes that can help our customers achieve their sustainability and climate-related goals. For example, through the sales of all ec-H2O™ and ec-H2O NanoClean® equipped scrubber-driers sold to date, we have helped our customers avoid more than 125,000 mT CO2 emissions compared to packaged chemicals. In 2021 alone, we estimate our customers avoided more than 11,200 mT CO2 emissions by using this group of products.
Reputation	Not relevant, explanation provided	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Climate-related reputation risk is not relevant to Tennant Company because no reputation risks associated with climate-related issues have been identified that have a substantive financial impact as defined by the ERA process. If an activity is likely to exceed this threshold, it will be included in our next ERA process.
Acute physical	Relevant, always included	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Acute physical risks are considered relevant and included in our annual ERA because of the risks associated with the increased severity and frequency of extreme weather events due to climate change. An example of an acute physical risk that Tennant Company considered in our annual ERA process is an extreme weather event occurring and affecting our transportation and logistics throughout our supply chain, which would create a domino effect for our manufacturing facilities and, ultimately, product delivery.
Chronic physical	Not relevant, explanation provided	Tennant Company uses a multi-disciplinary, company-wide Enterprise Risk Assessment (ERA) process to identify, monitor, and assess short-, medium-, and long-term risks to the Company, including climate-related risks, and prompts the development of processes to respond to those risks. The ERA is an annual process, and a part of that process is updating the enterprise risk profile, which includes prioritization, remediation planning, and reviews with the Senior Operating Committee (SOC), the Senior Management Team (SMT), and the Board of Directors. This ongoing process continues until the annual ERA update begins the following year again. Climate-related chronic physical risks are not relevant to Tennant Company because no chronic physical risks associated with climate-related issues have been identified that have a substantive financial impact as defined by the ERA process. If an activity is likely to exceed this threshold, it will be included in our next ERA process.

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

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
An emerging regulation Tennant Company sees as a potential risk is a growing trend of implementing carbon market mechanisms, including carbon pricing and carbon taxes, to address the externalized costs from the use of fossil fuels. We expect this trend to continue across the global economy. There are various possibilities that the Company takes into account, including regional emission trading schemes, such as the EU-ETS, with some mature market countries developing and operating cap and trade schemes, or a global agreement with mandatory reduction targets and action plans.

We purchase a significant amount of energy from various sources and suppliers in numerous geographic regions. Tennant Company's largest manufacturing facilities are located in advanced economies such as Italy, The Netherlands, and the United States. These facilities use substantial amounts of electricity and natural gas. We also have direct Sales and Service operations in many more advanced economies such as Australia, Canada, France, Germany, Italy, Japan, Spain, Portugal, and the UK.

The impact that these drivers may have on the Company is a potential increase in the costs of energy and the emissions they generate if comprehensive carbon market mechanisms are implemented throughout the global economy. We are already experiencing this increase in energy costs at our UK facilities which are subjected to the Climate Change Levy (CCL).

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
170000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Any variation of a carbon market mechanism will have a direct financial impact on Tennant Company. The potential financial impact would be an increase in energy costs. In 2021, the Company's total energy costs were more than 0% but less than 5% of total operational spend. In a worst-case scenario with an increase in energy costs by 1.5%, the potential impact is about $170,000, or 1.5% of our total 2021 energy costs.

Cost of response to risk
105248

Description of response and explanation of cost calculation
To mitigate such future costs, we monitor our energy use and implement activities to reduce energy consumption and CO2 emissions. These activities include investing in energy efficiency and reduction projects and sourcing energy from renewable sources.

In 2021, we planned, initiated, and completed 17 energy efficiency and reduction projects. One of these projects included sourcing renewable energy by purchasing Guarantee of Origins (GOs) and Renewable Energy Credits (RECs) for electricity usage for our major facilities in Europe and the United States. These projects also included lighting and mechanical equipment upgrades and will equate to an estimated 1,738 mT CO2e in emissions reductions.

To further manage this risk, we partner with our utilities, facility, operation managers, and other relevant associations to keep up to date on any potential rule and rate changes.

Comment
The cost of the response to risk noted above is the total investment in emissions reduction projects, as outlined in C4.3b.

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increase severity and frequency of extreme weather events such as torandos and floods)

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Tennant Company sees acute physical risks and the increased severity and frequency of extreme weather events as a potential risk that could impact our business operations. Climate change continues to drive extreme weather events, which may occur more frequently. Extreme weather events, such as tornadoes, hurricanes, typhoons, and flooding, present a global business interruption and resiliency risk to Tennant Company. These extreme weather events may occur more frequently. In 2021, the U.S. alone experienced 20 separate billion-dollar weather and climate disasters, costing $145 billion (source: https://www.climate.gov/news-features/blogs/beyond-data/2021-us-billion-dollar-weather-and-climate-disasters-historical). These events included three tornado outbreaks and eight severe weather events throughout the Midwest, where some of our major facilities are located.

Acute physical risks for facilities are defined by characteristics of their physical location, such as land height above nearby waterways/lakes, tornado or hurricane probability, etc. Insurance agency ratings and premiums quantify these risks.

For example, our facilities in Texas and Minnesota are exposed to greater tornado risk than those in other U.S. states and countries. Our facility in Louisville, KY, is exposed to greater flood risk as it is located in the Ohio River 100-year floodplain. As such, we must pay for a flood insurance rider on the Louisville facility to mitigate the potential financial impact of a flood.

With a global manufacturing model, we have production locations in Brazil, China, Italy, The Netherlands, and the United States. Therefore, we face the possibility of extreme weather causing interruption at one or more manufacturing locations.

Climate-related physical risks such as these in locations where we operate or our suppliers are currently located could cause short-term manufacturing or shipping delays or increased manufacturing or shipping costs, putting customer orders and our revenue at risk. Long-term disruptions could provide an incentive for reconfiguring our operations or supply chain.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
1000000

Potential financial impact figure – maximum (currency)
100000000

Explanation of financial impact figure
Tennant's property insurance carrier assesses risks by conducting site reviews and calculating potential loss based on various known factors. Depending on these factors, revenue impact could fall within the range of $1,000,000 to $100,000,000. All material properties, physical assets, and stock and supplies are insured, but long recovery times could drive significant revenue impact.

Cost of response to risk
1250000

Description of response and explanation of cost calculation
Tennant Company works with our insurance broker to understand and assess our risk to potential extreme weather events linked to climate change. This is integral to our annual risk assessment and the responsibility of our Environmental Health and Safety, Tax and Treasury, and Legal Departments. The Tax and Treasury Department maintain a register of properties as a checkpoint on current and appropriate types of insurance coverage.

We also manage risks by instituting robust business continuity planning. Instituting business continuity plans across the enterprise ensures we mitigate risks. Initial response and crisis management are critical success determinants in mitigating risk. For example, an extreme weather event (caused or amplified by climate change) at one of our manufacturing facilities will invoke a prepared set of initial response actions by action owners.

Tennant Company also has multiple redundant, off-site data centers to minimize the probability of business system unavailability.

The cost of the response to risk was estimated by adding average annual insurance premiums and potential deductibles.

Comment
No additional direct cost

Identifier
Risk 3

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

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Tennant Company sees as a potential risk the increased costs of raw materials due to supply chain disruptions in part caused by climate change and other environmental issues. Climate change continues to drive extreme weather events, which may occur more frequently. Extreme weather events, such as tornadoes, hurricanes, typhoons, and flooding, present a global business interruption and resiliency risk to Tennant Company. These extreme weather events may occur more frequently. In 2021 the U.S. alone experienced 20 separate billion-dollar weather and climate disasters, costing $145 billion (source: https://www.climate.gov/news-features/blogs/beyond-data/2021-us-billion-dollar-weather-and-climate-disasters-historical).

We have many direct material supplier groupings within Tennant Company's complex and broad product line. These groupings include but aren't limited to batteries, chargers, castings, engines, motors, and drives. To help manage this risk, we have several suppliers in each grouping who, in turn, have some facilities across the globe in various markets and economies. However, having a sole source for our materials creates risk, and having numerous, more diverse suppliers creates complexity, so a strategic supplier approach is required to achieve a good balance.

Extreme weather events cause supply chain interruptions, including supplier facilities being shut down for several days, limited resource availability, and transportation issues, which all drive up the price of raw materials. A specific example from 2021 includes the February winter storm that moved throughout the southern United States, including Texas. This impacted the global resin supply and North American land transport network, which affected the price and availability of resin and petrol chemicals and impacted the plastic components used in our machines. Then again in August 2021, hurricane Ida made landfall in the southern United States, causing a tornado outbreak and catastrophic flooding across the northeastern United States. This further stressed the global resin supply and the North American land transport network.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
13000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
We do not publicly share the financial details of specific products. However, to estimate a potential financial impact of the increased cost of raw materials, with an estimated 2% increase in the total costs of sales – as reported in our 2021 10-K (pg 23), the potential financial impact is about $13,000,000. Please note that the total cost of sales figure includes many other expenses, including the cost of raw materials.

Cost of response to risk

Description of response and explanation of cost calculation
Tennant Company manages the market risk of the increased cost of raw materials by communicating with our suppliers regularly to understand how and why any of their costs increase, including due to emerging climate-related regulations. The Global Strategic Supply teams work to mitigate raw material cost increases.

The Global Strategic Supply teams are responsible for our global supply chain, which includes: developing and implementing company-specific strategies for direct and indirect supply while driving continuous improvement throughout the supply chain; collaborating with manufacturing location-based groups; coordinating the global transportation network, contracts, and spend; and collaborating with global material control teams to manage supplier performance through key performance metrics.

We continued dialogue with additional suppliers on all aspects of sustainability (including carbon emissions) in 2021. C12.1a includes further details on supplier engagement.

Comment
We consider our supply chain partnerships confidential and generally do not disclose details on specific suppliers. We have supplied this detailed, confidential data to S&P Global to calculate carbon emissions from our Scope 3 - category 1, purchased goods and services.

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
Tennant Company designs, manufactures, sells, and services mechanized floor cleaning equipment to customers worldwide. Global awareness of climate change and its existential risk is fueling demand for reduced- and low-carbon products. We have experienced increased engagement from investors, suppliers, and customers related to our sustainability and ESG program, which includes climate-related initiatives. Our customers continue to ask for more detailed sustainability information in solicitations and Requests for Proposal. This increase in demand presents an opportunity for the Company to increase revenue through the development of new products or services through R&D and innovation. Throughout our 150-year history, we have been dedicated to advancing the cleaning industry by pursuing and investing in new technologies. Sustainability is embedded in our new product development (NPD) process to ensure that we develop products that offer measurable environmental impact improvements. As part of this process, our engineering and product development teams hold sustainability strategy and target-setting discussions. This process is centered around customer needs and evaluates them relative to the emerging technologies and macro trends. It allows for agile decision-making on projects, which ultimately provides better outcomes, brings more value to our customers and our business overall, and inspires innovations for the future.

In 2021, we expanded upon our autonomous mobile robot (AMR) floor cleaning product line with the release of the T16AMR. The T16AMR is the industry's first industrial robotic floor scrubber for large spaces. It is the third machine in the Company's AMR product line, along with our T7AMR Scrubber and the T380AMR. We have deployed over 5,400 robotic scrubbers, representing the world's largest fleet of autonomous floor scrubbers. These AMR machines help our customers address labor challenges, drive efficiencies, and maintain a high standard of cleaning while safely working alongside employees, customers, and guests. They are electric and battery powered and, therefore, have less use-phase emissions than their internal combustion (IC) counterparts. Combined with the available ec-H2O NanoClean® technology, which uses less water and allows for detergent-free cleaning, these machines help our customers reduce their carbon emissions and make progress toward their other environmental objectives.

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)
<Not Applicable>

Potential financial impact figure – minimum (currency)
1000000

Potential financial impact figure – maximum (currency)
5000000

Explanation of financial impact figure
Tennant Company offers a variety of autonomous mobile robot (AMR) floor cleaning products to help our customers address labor challenges, drive efficiencies, and maintain a high standard of cleaning while safely working alongside employees, customers, and guests.

In 2021, our customers made the decision to purchase our AMR products over 500 times. We do not publicly share the financial performance of specific products. However, from a magnitude standpoint, the selling of AMR products meets our definition of substantive financial impact. A substantive financial impact is evaluated on a 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) from USD 0 – USD 5M. Any activity that affects our profitability or financial position by a value that falls within or outside of the 5-tiered EBITDA scale is considered a substantive financial impact.

Cost to realize opportunity
32000000

Strategy to realize opportunity and explanation of cost calculation
Every year we make significant investments in R&D, and our annual investment is approximately 3% of sales. We manage the opportunity associated with developing and expanding lower emissions products and services through our R&D investment and by embedding sustainability into our new product design (NPD) process.

Our AMR product line is a case study of our significant investments in R&D, which increase efficiencies and bring value to our customers by helping them reduce their carbon emissions and make progress toward their other environmental objectives. The cost to realize the opportunity is our significant investment in R&D, which was $32,000,000 in 2021, approximately 3% of total sales.

Comment
The cost to realize the opportunity is the total cost of all research and development expenses for 2021. Project-level investment is confidential information.

Identifier
Opp2

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 resulting from increased demand for products and services

Company-specific description

Tennant Company designs, manufactures, sells, and services mechanized floor cleaning equipment to customers worldwide. Global awareness of climate change and its existential risk is fueling demand for reduced- and low-carbon products. We have experienced an increased engagement from investors, suppliers, and customers related to our sustainability and ESG program, which includes climate-related initiatives. Our customers continue to ask for more detailed sustainability information in solicitations and Requests for Proposal. We are seeing increasing customer demand for more efficient products that reduce customer costs and carbon emissions. This customer demand for more efficient products and services presents an opportunity for the Company to increase revenue by capitalizing on the increasing demand for our reduced- and low-emissions products.

Designing durable, high-quality, high-performing, and sustainable products is a top priority for the company. To accomplish this, sustainability is embedded in our new product development (NPD) process to ensure that we are developing products that offer measurable environmental impact improvements. As part of this process, our engineering and product development teams hold sustainability strategy and target-setting discussions. This process is centered around customer needs and evaluates them relative to the emerging technologies and macro trends. It allows for agile decision-making on projects, which ultimately provides better outcomes, brings more value to our customers, and our business overall, and inspires innovations for the future.

As a result, we have a broad line of eco-advantaged products which help our customers save money, increase efficiencies, reduce their emissions, and meet their sustainability goals. These eco-advantaged products include improved energy and resource efficiency, electric and battery-power sources, and reduced use-phase carbon emissions.

In 2021 our customers made the decision to buy our eco-advantaged products and machines more than 60,000 times, which will help those customers reduce their emissions and meet their sustainability goals.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
1000000

Potential financial impact figure – maximum (currency)
5000000

Explanation of financial impact figure
Tennant Company offers a variety of eco-advantaged products to help our customers address labor challenges, drive efficiencies, and maintain a high standard of cleaning while safely working alongside employees, customers, and guests.

In 2021, our customers made the decision to purchase our eco-advantaged products more than 60,000 times, which will help those customers reduce their emissions and meet their sustainability goals. We do not publicly share the financial performance of specific products. However, from a magnitude standpoint, the selling of eco-advantaged products meets our definition of substantive financial impact. A substantive financial impact is evaluated on a 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) from USD 0 – USD 5M. Any activity that affects our profitability or financial position by a value that falls within or outside of the 5-tiered EBITDA scale is considered a substantive financial impact.

Cost to realize opportunity
32000000

Strategy to realize opportunity and explanation of cost calculation
Tennant Company's strategy to realize this opportunity is to actively and directly engage with our customers. We determine their evolving needs and expectations while considering micro and macro societal/market trends. We are working with our customers to find ways to simplify their operations while lowering their cleaning costs and reducing the emissions of their cleaning process. Having direct Sales and Service personnel in the field, in both developing and developed economies, and leveraging primary and secondary research helps this process immensely.

Engaging with customers enables Tennant Company to develop industry-leading products and services and continuously develop innovative sustainable solutions for customer facilities. To accomplish this, the Sustainability Innovation Manager works directly with the Global Engineering teams during the design of new products to identify sustainability targets for new products. Our engineering and product development teams are committed to holding sustainability strategy and target-setting discussions during the design process of new products. Designing sustainable and durable products is among the top sustainability priorities for the Company.

Every year we make significant investments in R&D, and our annual investment is approximately 3% of sales. We manage this opportunity by developing or expanding low-emission products and technologies through our R&D investment and embedding sustainability into our new product design (NPD) process.

We use internal resources to help manage environmental programs and partnerships that benefit our customers and shareholders. Additionally, we create and distribute materials to help sell products with favorable environmental attributes. For example, Tennant Company has a brochure outlining the environmental attributes of various products and technologies. https://www.tennantco.com/content/dam/resources/web-content/sustainability/environmental-brochure-en-noam.pdf

Comment
The cost to realize the opportunity is the total cost for all research and development expenses for 2021 and was applied across various initiatives. Project-level investment is confidential information.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
Tennant Company has identified an opportunity to participate in the circular economy, with the potential to develop a closed-loop product experience for our customers through the sale of refurbished equipment.

Tennant has offered pre-owned equipment to its customers for well over a decade and now has specialized reconditioning teams, called RECON, throughout our global operations. We have experienced increased interest in pre-owned Tennant machines from our customers and new customers, as these pre-owned Tennant machines provide reliable cleaning power and quality at an affordable price. Tennant takes back and reconditions our equipment to extend the machines' useful life.

We recondition to three different tiers: Certified Pre-owned, Used, and As-is. Each tier requires a different level of reconditioning, and the 'newness' and quality of the resulting product will depend on which level is chosen. A Certified Pre-owned has more replacement parts and labor required to bring it up to a 'like-new' state, but this type of machine should, theoretically, last longer than a Used or As-is tiered machine.

RECON machines have been assessed and deemed appropriate for reconditioning, are thoroughly inspected, and components with excessive wear are replaced. Finally, the machines undergo a comprehensive quality check and are delivered to the customer with labor and parts warranties appropriate to their reconditioning tier.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
40000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
The estimated financial impact is based on 2021 revenue from RECON products in our largest RECON markets, the United States and Canada, and the potential revenue growth within the next two years (short-term time horizon).

Cost to realize opportunity
14000000

Strategy to realize opportunity and explanation of cost calculation
Tennant's global operations found opportunities with RECON and rental during economic downturns. Meanwhile, in the U.S., it was becoming more evident that we were missing out on an opportunity because non-associated third parties were buying old Tennant machines and refurbishing them, which had a negative impact on our brand.

We decided to start a more focused reconditioning effort in North America, based on the success observed in different regions of the Company, and to take back the brand's integrity. The RECON business allows new customers to purchase Tennant equipment at a certified pre-owned, used, or as-is level, opening up Tennant to a new market of customers that were previously priced out because our products are generally priced higher than our competitors' products. This is due to our dedication to quality, innovation, and continued investment in research, technology, and product development.

We have five RECON facilitates in North America, plus facilities in Brazil and Spain.

The cost to realize the opportunity is based on the 2021 total cost of RECON goods sold and operating expenses.

Comment
The cost to realize the opportunity is based on the 2021 total cost of RECON goods sold and operating expenses.

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan
No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a transition plan within two years

Publicly available transition plan
<Not Applicable>

Mechanism by which feedback is collected from shareholders on your transition plan
<Not Applicable>

Description of feedback mechanism
<Not Applicable>

Frequency of feedback collection
<Not Applicable>

Attach any relevant documents which detail your transition plan (optional)
<Not Applicable>

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future
In 2021, the Company initiated a refresh of our current sustainability strategy, which included reevaluating our greenhouse gas emissions reduction targets and other climate-related goals and activities. There were many drivers for refreshing the Company's sustainability strategy, including the need to reevaluate our science-based greenhouse gas emissions reduction targets. Since setting two science-based targets (SBT) through the Science Based Targets initiative (SBTi) in 2018, the Company has grown significantly through acquisitions and achieved our Scope 1 & 2 target in 2020. We are still reporting annual Scope 1 & 2 emissions from our operations and value chain because we remain committed to driving progress and will continue to work to reduce our greenhouse gas emissions throughout the process of setting our new SBTs. We plan on submitting our new SBTs to SBTi for validation by the end of this year.

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: IEA 2DS	Company-wide	<Not Applicable>	This quantitative climate-related scenario analysis was a part of the Science Based Target initiative's (SBTi) target-setting and validation process. As such, SBTi criteria and recommendations for parameters and assumptions were incorporated. We followed the Sectorial Decarbonization Approach (SDA), which utilizes the International Energy Agency's (IEA) Energy Technology Perspectives (ETP) report published and the 2°C Scenario (2DS). 2016 and the associated Scope 1, 2, and 3 greenhouse gas emissions were used for our baseline year. 2030 is the target year for our two science-based targets (SBT) and is in alignment with well below 2°C by 2050 SBTi criteria. Additional assumptions and parameters are based on our industry sector, which is "manufacture of machinery and equipment." Additional information on assumptions and parameters can be found here: https://sciencebasedtargets.org/resources/files/foundations-for-net-zero-full-paper.pdf
Transition scenarios: IEA SDS	Company-wide	<Not Applicable>	This qualitative climate-related scenario analysis was a part of our current sustainability strategy, which includes climate-related initiatives. We followed the assumptions and parameters outlined by the IEA SDS scenario. Inputs included annual Scope 1, 2, and 3 emissions. 2030 was the medium-term target year and 2050 was the long-term target year. A complete list of IEA SDS assumptions can be found here: https://www.iea.org/reports/world-energy-model/policies#sustainable-development-scenario-assumptions.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Tennant Company seeks to address the following focal questions by using climate-related scenario analysis: How will our business be impacted by climate change's large-scale and complex nature?

Results of the climate-related scenario analysis with respect to the focal questions

When developing our current sustainability strategy, greenhouse gas emissions were identified as a material issue. We conducted climate-related scenario analyses to understand better how our business will be impacted by climate change's large-scale and complex nature.

One way our business may be impacted is through emerging regulations, such as the growing trend of implementing carbon market mechanisms, including carbon pricing and carbon taxes, to address the externalized costs from the use of fossil fuels. Tennant Company expects this trend to continue. We utilized the International Energy Agency (IEA) Sustainable Development Scenario (SDS) to qualitatively assess the risks of these emerging regulations.

Based on the IEA's estimated externalized costs per metric ton of CO2, the total potential costs of direct and indirect impacts meet Tennant's definition of a substantive financial impact. As part of our annual enterprise risk assessment (ERA), substantive financial impacts are defined and evaluated on a 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) from USD 0 – USD 5M.

The results of this analysis informed our current strategy, influenced our climate-related objectives, and increased leadership commitment to short- and long-term goals. These goals included setting two science-based targets (SBT) through the Science Based Targets initiative (SBTi) and undergoing their rigorous target setting and validation process, which includes the quantitative IEA 2DS climate-related scenario analysis.

The SBTi target-setting process and scenario analysis strengthen internal motivation for setting and achieving emission reduction targets.

Since setting these targets, the Company has grown significantly through acquisitions, and we achieved our current Scope 1 & 2 target in 2020. Additionally, the Company recognizes our role in mitigating climate change impacts and will be resubmitting these two targets by the end of 2022, in alignment with SBTi's greater level of ambition to limit global warming to 1.5 °C. We are still reporting annual Scope 1 & 2 emissions from our operations and value chain because we remain committed to driving progress and will continue to work to reduce our greenhouse gas emissions throughout the process of setting our new SBTs.

C3.3

(C3.3) 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	Tennant Company's sustainability strategy has been influenced by the opportunity to address the increase in demand for reduced and low-carbon products. From a products and services perspective, Tennant Company's most substantial strategic decision to date is incorporating sustainability into the new product design process and prioritizing high-performance and durability. Generally, our products have a higher average selling price, higher margin, and higher revenue over other entry-level products. As a result, the Company offers many products with various environmental attributes to help our customers save money, increase efficiencies, reduce their emissions, and meet their sustainability goals. One specific example is our proprietary, patented ec-H2O™ technology that can be added to most of our scrubber-driers products. Based on this technology's success, we made the strategic decision to develop and release a more advanced version, the ec-H2O NanoClean®. We do not publicly share a segregated view of the financial performance of our products. Through the sales of all ec-H2O™ and ec-H2O NanoClean® equipped scrubber-driers sold to date, we have helped our customers avoid more than 125,000 mT CO2 emissions compared to packaged chemicals. In 2021 alone, we estimate our customers avoided more than 11,200 mT CO2 emissions by using this group of products. These estimates are based on independent LCAs performed by EcoForm, total ec-H2O™ and ec-H2O NanoClean® equipped scrubber-drier units sold to date, and the installed base operating in 2021. We expect our sustainable products strategy to remain in place through at least 2030 in conjunction with our science-based target to reduce Scope 3 – category 11, Use of sold products emissions by 50% per $USD of equipment revenue by 2030. Also, in 2021, we initiated a refresh of our sustainability strategy, which included a materiality assessment. Numerous material issues fall under our products and services, including product energy use and greenhouse gas emissions. As such, products and services will be critical to our updated sustainability strategy.
Supply chain and/or value chain	Yes	Tennant Company's sustainability strategy has been influenced by the climate-related risks and opportunities throughout our value chain. For several years, the Company's largest source of emissions has been our Scope 3 emissions, specifically our Scope 3 – category 11, Use of sold products, which accounted for 71.8% of our total 2021 value chain emissions. As a result, our customers' use of Tennant products is an integral part of our value chain sustainability and climate-related strategy. Tennant Company's most substantial strategic decision to date was setting a science-based target (SBT) in collaboration with the Science Based Target initiative (SBTi) to reduce our Scope 3 - category 11 emissions and transparently report on our impact to create mutual accountability between us and our value chain partners. By embedding sustainability into our new product development process and enhancing our current product portfolio through efficiency improvements such as electrification and robotics, we were able to avoid a linear increase in our Scope 3 – category 11, Use of sold products emissions as compared to the higher percentage increase of our equipment revenue in 2021. We expect our value chain sustainability strategy to remain in place through at least 2030 in conjunction with our science-based target to reduce Scope 3 – category 11, Use of sold products emissions by 50% per $USD of equipment revenue by 2030. Also, in 2021, we initiated a refresh of our sustainability strategy, which included a materiality assessment. Numerous material issues fall under our supply and value chain, including the physical impact of climate change and materials sourcing. As such, the supply and value chain will be critical to our updated sustainability strategy.
Investment in R&D	Yes	Tennant Company's strategy has been influenced by the opportunity to address the increase in demand for reduced and low-carbon products and services through R&D and innovation. Throughout our 150-year history, Tennant Company has been dedicated to advancing the cleaning industry by developing innovative technologies to create a cleaner, safer, healthier world. As a result, we have embedded sustainability strategy and target-setting discussions into our new product development process. Our innovation efforts are focused on holistically solving our customers' needs by addressing various issues, such as managing labor costs, enhancing productivity, and making cleaning processes more efficient and sustainable. We are creating new growth opportunities through core product development, partnerships, and technology enablement. One of Tennant Company's most substantial strategic decisions to date was to gradually transition our product portfolio power source from internal combustion (IC) engines to electric sources, including lithium-ion and lead acid batteries and corded-electric. This decision had multiple drivers, including increasing customer demand for lower emissions products, the emerging regulatory risks that could affect IC engines, and our commitment to reducing emissions throughout our value chain. In 2021, 99.1% of units sold were electric, and 0.9% were IC. The Company achieved this, along with other product innovation and sustainability goals, by investing approximately 3% of annual sales in research and development annually. We expect our sustainable products strategy to remain in place through at least 2030 in conjunction with our science-based target to reduce Scope 3 – category 11, Use of sold products emissions by 50% per $USD of equipment revenue by 2030. Also, in 2021, we initiated a refresh of our sustainability strategy, which included a materiality assessment. Numerous material issues fall under investment in R&D, including product design and lifecycle management. As such, investment in R&D will be critical to our updated sustainability strategy.
Operations	Yes	Tennant Company's sustainability strategy has been influenced by climate-related risks to our operations. These risks include potential carbon market mechanisms and other emerging regulations that could increase the total costs of energy and the emissions they generate. One of our most substantial strategic decisions to date was to prioritize energy and emissions reduction projects. Tennant Company has been implementing various energy efficiency and reduction projects annually, which also reduce operating costs for our manufacturing facilities and sales/service vehicle fleets. We achieved this by adapting energy- and fuel-saving technologies. One Company-specific example is the installation of a new, more efficient compressed air system at our largest manufacturing facility in Minneapolis, MN, completed in Q1 2021. The estimated annual energy savings from the new system is 333,870 kWh, and the resulting Scope 2 emissions reduction will be approximately 149 mT CO2e per year. Our energy and emissions reduction projects reduce current operating costs and mitigate longer-term climate-related risks. In 2021, we implemented nine energy and emissions reductions projects for an estimated 978.3 mT CO2e in annual CO2e savings. We expect our operations sustainability strategy to remain in place through at least 2030 in conjunction with our science-based target (SBT) to reduce Scope 1 & 2 GHG emissions by 25% by 2030. In 2021, we reduced our Scope 1 & 2 target emissions by 3.2% to 20,494.4 mT CO2e (does not include 2017 IPC or 2019 Gaomei acquisitions). We are in the process of setting new SBTs through the Science Based Targets initiative (SBTi) due to our significant growth since setting this target, and we achieved our current Scope 1 & 2 target in 2020. Also, in 2021, we initiated a refresh of our sustainability strategy, which included a materiality assessment. Numerous material issues fall under operations, including greenhouse gas emissions, transportation, and vehicle fleet. As such, operations will be critical to our updated sustainability strategy.

C3.4

(C3.4) 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 Capital allocation	Climate-related risks and opportunities have influenced our financial planning as it relates to revenues, direct costs, capital expenditures, and capital allocation. For example, climate-related risks and opportunities related to product and services innovation, regulations and standards, and customer preferences and requirements were identified in our annual enterprise risk assessment (ERA) and influenced our long-term financial planning as related to revenues. In 2021, customers made the decision to buy our eco-advantaged products and machines more than 60,000 times, which will help those customers reduce their emissions and meet their sustainability goals. The revenue generated meets our definition of substantive financial impact, which is an activity that affects our profitability or financial position by a value that falls within or outside of the 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) scale from USD 0 – USD 5M. We also continue to see an increase in sustainability questions and requirements in our customers' solicitations and requests for proposals, including issues related to the climate risks and opportunities described above. We anticipate continued interest and growth in the magnitude of these customer requirements; thus, it represents an opportunity for the Company to increase investment in developing new and expanding current, low emissions products or services. As another example, Tennant Company has a climate-related risk to direct costs, capital expenditures, and allocations as we consider how best to achieve our science-based carbon reduction targets for 2030. Direct costs risk includes rising energy costs, potential carbon market mechanisms, and other emerging regulations that could further increase the total costs of fossil-fuel energy and the emissions they generate. Our efforts to reduce carbon emissions have resulted in significant savings in electricity, natural gas, and vehicle fuel costs. Impacts include reduced current operating costs and mitigating the longer-term risk of potential carbon market mechanisms. We have reduced operating costs for manufacturing facilities and sales/service vehicle fleets by adapting energy- and fuel-saving technologies. One company-specific example is installing a new, more efficient compressed air system at our largest manufacturing facility in Minneapolis, MN, completed in Q1 2021. The estimated annual energy savings from the new system is 333,870 kWh, and the resulting Scope 2 emissions reduction will be approximately 149 mT CO2e. This upgrade's energy efficiency annual cost savings are estimated at $38,395. Anticipated direct cost savings are an important consideration in our financial planning. Capital expenditures and allocations include investing in energy-efficient equipment and efficiency projects and sourcing renewable energy. Tennant Company considers long-term energy and fuel cost savings in capital expense financial analysis. This is part of the financial model required for capital planning and approval. One Company-specific example was our continued commitment to renewable energy by purchasing Guarantees of Origin (GOs) and Renewable Energy Credits (RECs) for the electricity consumption at multiple facilities. The total renewable purchase represents 22,350 MWh, more than 85% of all electricity consumed across the company globally in 2021. Tennant Company has two science-based targets (SBT) through the Science Based Targets initiative (SBTi), with the target year of 2030. Since setting these targets, the Company has grown significantly through acquisitions and achieved our Scope 1& 2 target in 2020. We are still reporting annual Scope 1 & 2 emissions from our operations and value chain because we remain committed to driving progress and will continue to work to reduce our greenhouse gas emissions throughout the process of setting our new SBTs. We plan on submitting our new SBT to SBTi for validation by the end of this year. This is a part of our sustainability strategy refresh that we initiated in 2021.

C4. Targets and performance

C4.1

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

Absolute target
Intensity target

C4.1a

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

Target reference number
Abs 1

Year target was set
2017

Target coverage
Other, please specify (The target includes at least 99% of the company's total global gross Scope 1 & 2 emissions for the base year 2016. The explanation below provides complete detail on target coverage.)

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2016

Base year Scope 1 emissions covered by target (metric tons CO2e)
23059.1

Base year Scope 2 emissions covered by target (metric tons CO2e)
9420.8

Base year Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
32480

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
99

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
99

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
99

Target year
2030

Targeted reduction from base year (%)
25

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
24360

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
19906.1

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
588.3

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
20494.4

% of target achieved relative to base year [auto-calculated]
147.605911330049

Target status in reporting year
Achieved

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
2°C aligned

Please explain target coverage and identify any exclusions
The 25% absolute reduction target (Abs 1) was approved by the Science Based Targets initiative (SBTi) in early 2018. The reduction achieved through 2021, compared to base year 2016, was 36.9% ((32,480 - 20,494.4) / 32,480). We achieved the target in 2020. However, we were unable to set new targets in 2021 because 2020 was not a representative base year due to pandemic-related disruptions. We needed a more recent and accurate baseline year to set new targets to reflect the relatively normal business activity. We could not use any prior years for our base year because of the 2019 acquisition of Gaomei. Therefore, we intend to set new SBTi targets in Q4 2022, using 2021 as the new base year.

This target includes at least 99% of the company's total global gross Scope 1 & 2 emissions for the base year 2016.

We reassess our operational control boundary annually. What is not covered by this target are small facilities that use very little energy. All emissions from these facilities are less than 1% of total emissions covered by the target reporting boundary. When conducting the annual boundary assessment, if we identify relevant emissions not previously reported, we restate prior year emissions to include them. No boundary-related restatements are included in our CDP Climate Change 2022 response.

IPC Group (acquired in April 2017) emissions are reported as part of 2021 total Scope 1 & 2 emissions. IPC Group represents 17% of our 2021 market-based Scope 1 & 2 emissions, but IPC is not part of the 2016 base year emissions for the Abs 1 target.

Gaomei (acquired in January 2019) emissions are reported as part of 2021 total Scope 1 & 2 emissions. Gaomei represents 5% of our 2021 market-based Scope 1 & 2 emissions, but Gaomei is not part of the 2016 base year emissions for the Abs 1 target.

We intend to resubmit this target to include both IPC and Gaomei and to align with SBTi's greater level of ambition of limit global warming to 1.5 °C by the end of 2022.

Plan for achieving target, and progress made to the end of the reporting year
<Not Applicable>

List the emissions reduction initiatives which contributed most to achieving this target
The primary emissions reduction initiatives which led us to achieve this target were: transitioning our Sales and Service fleet to more efficient vehicles, driver awareness, and rewards program to improve driving behaviors and fuel savings of Sales and Service vehicles, and LED lighting upgrades at our manufacturing facilities around the globe, facility consolidations and eliminating unused spaces, upgrading our lift truck fleet around the world to more efficient battery units, the purchase of Renewable Energy Credits (RECs) and Guarantees of Origin (GOs) for various types of renewable energy at our larger facilities in the US and Europe, and multiple energy efficiency updates or replacements of manufacturing equipment such as sheet metal lasers, sheet metal press brakes, metal lathes, and air compressor systems.

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
2017

Target coverage
Other, please specify (The target includes at least 95% of the company's total global gross Scope 3, Cat 11 emissions for the base year 2016. The explanation below provides complete detail on target coverage.)

Scope(s)
Scope 3

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
Category 11: Use of sold products

Intensity metric
Other, please specify (Metric tons CO2 per unit of new product revenue)

Base year
2016

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)
776

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
776

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure
95

% of total base year emissions in all selected Scopes covered by this intensity figure
95

Target year
2030

Targeted reduction from base year (%)
50

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
388

% change anticipated in absolute Scope 1+2 emissions
0

% change anticipated in absolute Scope 3 emissions
-36

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)
526

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
526

% of target achieved relative to base year [auto-calculated]
64.4329896907216

Target status in reporting year
Underway

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
2°C aligned

Please explain target coverage and identify any exclusions
Int 1 covers Scope 3 – category 11 (cat 11), Use of sold products. The Int 1 target was approved by the Science Based Targets initiative (SBTi) in early 2018.

2021 emissions intensity was 526 mT CO2 / $ M in equipment revenue (219,802 mT CO2 / $ 417.6 M).

2016 base year emissions intensity was 776 mT CO2 / $ M in equipment revenue (354,685 mT CO2 / $ 457 M). The intensity reduction achieved as of 12/31/21 was 32.2%

((776 - 526) / 776)).

As of 12/31/21, we had achieved 64.4% (32.2% / 50%) of progress toward the Int 1 target in 35.7% (5 / 14 years) of time to target.

This target includes at least 95% of the company's total global gross Scope 3 – cat 11 emissions in the base year 2016. The target does not include intermediate products, reconditioned equipment, or third-party products outside our design control.

IPC Group (acquired in April 2017) emissions are reported as part of 2021 Scope 3 – cat 11, Use of sold products emissions (Section C6.5). IPC Group represents 44.5% of our total 2021 Scope 3 – cat 11 emissions, but IPC is not part of the 2016 base year emissions for the Int 1 target.

Gaomei (acquired in January 2019) emissions are reported as part of 2021 Scope 3 – cat 11, Use of sold products emissions (Section C6.5). Gaomei represents 8.5% of our 2021 Scope 3 – cat 11, but Gaomei is not part of the 2016 base year emissions for the Int 1 target.

We intend to resubmit this target to include both IPC and Gaomei and to align with SBTi's greater level of ambition of limit global warming to 1.5 °C by the end of 2022.

Plan for achieving target, and progress made to the end of the reporting year

Tennant Company has a goal to develop products that offer measurable environmental impact improvements. To track progress toward this goal, we record the total number of sustainability targets set at the beginning of the product development process and how many of those targets were achieved at the product launch. To accomplish this, our engineering and product development teams hold sustainability strategy and target-setting discussions while designing new products. This process is centered around customer needs and evaluates them relative to the emerging technologies and macro trends. Examples of past sustainability targets that have been incorporated into projects include reduced energy usage and electrification. Collaborating with our customers and embedding sustainability into our product design are critical components of our business success.

We continue to focus on electrification and maintaining engine standards to advance trends moving away from internal combustion (IC) equipment. In terms of units sold in 2021, 99.1% were electric, and 0.9% were IC. The product use-phase emissions from IC machines fell to 15.8%, compared to 18% in 2020. This was partly due to our discontinuation of larger engine-powered equipment, which were very carbon intensive. One recent example of electrification is IPC's first all-electric hot pressure washer, the PW-E100. Traditional hot pressure washers use boilers powered by gasoline or diesel to heat water, but the PW-E100 has a purely electric design, eliminating the use of fossil fuels. This ensures greater efficiencies and zero exhaust emissions. Continuing to focus on electrifying our IC machines will help us achieve our science-based target of reducing intensity emissions from our products by 50% by 2030.

Like many other industries, the cleaning industry is transitioning due to disruptive technologies that drive greater automation. Robotics and artificial intelligence technologies have made significant inroads into the cleaning industry. We continue to focus on automating cleaning tasks using robotics, resulting in more sustainable products and cleaning efficiency. Key benefits to customers include efficiency gains, resource savings, and consistent cleaning. Longer-term, robotics gives us new avenues to explore resource efficiency, especially with data analytics.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

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

No other climate-related targets

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	20	
To be implemented*	5	312
Implementation commenced*	3	447.2
Implemented*	9	978.3
Not to be implemented	1	

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 production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)

149.4

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
38395

Investment required (unit currency – as specified in C0.4)
50000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Compressed air system upgrades at our Minneapolis, MN, facility from an old, leaky system to a more efficient one. Estimated electricity savings of 333,870 kWh per year.

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)
7.1

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1710

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
New, more efficient brush manufacturing machine at our Louisville, KY, facility. Estimated electricity savings of 15,000 kWh per year.

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)
2.2

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
575

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
New, more efficient lathe in our manufacturing facility in Minneapolis, MN. Estimated electricity savings of 5,000 kWh per year.

Initiative category & Initiative type

Company policy or behavioral change	Resource efficiency

Estimated annual CO2e savings (metric tonnes CO2e)
4.4

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
555

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
A lighting study at our production facility in Hefei, China, showed that only 22 of 46 lights were needed in the sheet metal area, so the others were turned off. Estimated electricity savings of 4,884 kWh per year.

Initiative category & Initiative type

Energy efficiency in production processes	Smart control system

Estimated annual CO2e savings (metric tonnes CO2e)
48

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
4302

Investment required (unit currency – as specified in C0.4)
0

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
Upgraded burner and fan controls on three plastic rotomolding machines at our Holland, MI, facility. Estimated gas savings of 900 MMBtu per year.

Initiative category & Initiative type

Energy efficiency in buildings	Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)
133.8

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
22225

Investment required (unit currency – as specified in C0.4)
54000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Improved HVAC controls allowing shutdown, plus variable frequency drives on nine air units (MAUs and RTUs). Annual electricity and natural gas savings of 107,891 kWh and 16,095 Therms.

Initiative category & Initiative type

Low-carbon energy consumption	Wind

Estimated annual CO2e savings (metric tonnes CO2e)
249.8

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
0

Investment required (unit currency – as specified in C0.4)
258

Payback period
No payback

Estimated lifetime of the initiative
Ongoing

Comment
550 incremental Italy Wind GOs for facilities in The Netherlands.

Initiative category & Initiative type

Low-carbon energy consumption	Hydropower (capacity unknown)

Estimated annual CO2e savings (metric tonnes CO2e)
383.6

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
0

Investment required (unit currency – as specified in C0.4)
990

Payback period
No payback

Estimated lifetime of the initiative
Ongoing

Comment
845 incremental US RECs applied to our Texas, Kentucky, and MN manufacturing facilities.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Regulatory requirements and standards related to energy and fuel efficiency continue to help drive emissions reduction. The Renewable Energy Standard (RES) in Minnesota is a good example. The RES has significantly increased the percentage of renewable energy sources on the grid supplying our largest electrical demands (Minneapolis campus). We also see electricity demand reduction benefit from standards-driven upgrades to devices we regularly replace. These devices include but aren't limited to computers, monitors, and printers.
Employee engagement	Employees are encouraged to submit all improvement ideas, including energy reduction and efficiency, through various Continuous Improvement (CI) programs. One example CI program is the Value Stream Tier Boards at our largest manufacturing facility in Minneapolis, MN. Example value streams include fabrication and assembly. All employees in each particular value stream can add improvement ideas to the Tier Board. Ideas are then evaluated and prioritized by a Manufacturing or Process Engineer. A global program called Frontline Employee-Led CI Wins has been implemented to highlight significant improvements made at our major manufacturing facilities. Each facility submits one "win" per month, and there is a "Sustainability Notes" section where they can declare energy or waste savings resulting from the initiative. There are many different CI programs globally, each tailored to a specific function and/or location activities. Energy reduction ideas are considered at each of our global facilities. These ideas contribute to our progress on emission reduction.
Financial optimization calculations	Estimating energy and/or fuel reduction for building upgrades, new equipment, and process investments are part of the Annual Operating Plan-Capital Planning template. The list of Capital projects is routed to the Director of Sustainability during the planning process, who advocates for investment toward efficiency projects. Additional detail is required in Capital Expenditure Requests (CERs). The CER is used to analyze and justify capital investments. Each CER is routed through required approvers before a project can start. CER routing includes the Sustainability Innovation Manager, who can advocate for investment toward efficiency projects, help quantify total cost savings, and manage the total portfolio of emission-reduction initiatives.
Internal incentives/recognition programs	Employees can be nominated by their peers and leadership for APPLAUSE and Leading Edge Awards. These programs continue to provide recognition and monetary rewards for working toward energy, fuel efficiency, and emissions reductions. The Frontline Employee-Led CI Wins program at our global manufacturing facilities also recognizes those employees who implemented the CI project with their names and photos.
Internal finance mechanisms	The Annual Operating Plan process was revised, so capital equipment projects which yield greenhouse gas (GHG) emission reductions are distinctly identified. Since then, all capital equipment projects are viewed as a company-wide portfolio to ensure we are making the best investments.
Internal price on carbon	We use an internal price on carbon (shadow price) to assess current and future enterprise risk from market mechanisms addressing external costs of fossil fuels. These market mechanisms are expanding globally, and we expect this expansion to continue over the long term. We use $80 / mT CO2e as a uniform, current internal carbon price, as it is on the high end of the current climate science guidance. The World Bank's "State and Trends of Carbon Pricing 2022" signals a recommended 2030 carbon price corridor of $50 - $100 per mT CO2 to align with the latest climate science, so we are well within this range.
Other (External partnerships)	We employ independent energy assessment organizations to identify energy reduction and efficiency opportunities. For example, there is a process efficiency program administered by Xcel Energy in Minnesota. We have engaged in this program for more than 10 years. Graphet Data Mining has independently assessed our major facilities to identify the most promising opportunities for energy reduction. We also regularly engage our business partners, including utilities (Xcel Energy, CenterPoint Energy, and Holland Board of Public Works) and fleet management companies. This engagement identified new opportunities and best practices around energy/fuel efficiency improvements and emissions reductions.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Other	Other, please specify (Detergent-free products, including ec-H2O and ec-H2O NanoClean® scrubber-driers)

Description of product(s) or service(s)

A machine with integrated cleaning technology turns water into a cleaning solution, omitting the need for detergents, typically used in most cleaning processes. Avoiding the use of detergents over the lifetime of a product results in significant emissions savings, primarily due to the avoided manufacture and transportation of these detergents and associated packaging.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Life Cycle Assessment using version 6 of the GaBi Life-Cycle Software. Secondary data from GaBi and Ecoinvent datasets, supplemented by proprietary Ecoform data sets, comprised the entirety of the life-cycle inventory data.)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Cradle-to-grave

Functional unit used

Cleaning 25,000 square feet of resilient floor over a period of five years

Reference product/service or baseline scenario used

A typical conventional, chemical-based floor scrubbing system with the following parameters: concentrated detergent with a dilution rate of 1 ounce per gallon; detergent in

a 1-gallon bottle with HDPE weight of 0.14 kg; detergent packaged with 4 bottles per carton with a corrugate weight of 0.65 kg.

Life cycle stage(s) covered for the reference product/service or baseline scenario
Cradle-to-grave

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
11200

Explain your calculation of avoided emissions, including any assumptions
In 2021, we estimate our customers avoided more than 11,200 mT CO2 from all ec-H2O and ec-H2O NanoClean® equipped scrubber-driers (using these cleaning technologies instead of packaged detergents). This estimate is based on independent LCAs performed by EcoForm and the installed base operating in 2021. Avoided emissions are the result of significant reductions of input materials and detergent manufacturing, elimination of packaging, and elimination of emissions from transportation. We estimate our customers have avoided more than 125,000 mT CO2 emissions to date by using this group of products. This estimate is based on independent LCAs performed by EcoForm and total ec-H2O unit sales from inception.
These estimates are extremely conservative. They are based on LCAs for T3 & T300 size machines, the smallest models sold with ec-H2O and ec-H2O NanoClean® options. The range of machine sizes sold with these options runs from a 17-inch (430 mm) cleaning path on T300 to 64-inch (1625 mm) on M30. All larger machine models sold and used by customers have greater quantitative environmental impact reductions, including carbon emissions. There are 16 models larger than T3 & T300, including Tennant branded T350, T380AMR, T500, T600, T7, T7AMR, T12, T16, T17, T20, M17, M20, M30, plus Nobles branded SS350, SS500, and SpeedScrub Rider. The larger models mentioned above represent 65% of the units sold with this detergent-free technology in 2021. The "by the size of machine" distribution of units sold is similar to prior years. Those units remain part of the operating installed base.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
9.4

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Other	Other, please specify (Reconditioned (RECON) Tennant T300 to extend useful life)

Description of product(s) or service(s)
Tennant takes back and reconditions our equipment to extend the machines' useful life. We recondition to three different tiers: Certified Pre-owned, Used, and As-is. Each tier requires a different level of reconditioning, and the 'newness' and quality of the resulting product will depend on which level is chosen. A Certified Pre-owned has more replacement parts and labor required to bring it up to a 'like-new' state, but this type of machine should, theoretically, last longer than a Used or As-is tiered machine.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
Yes

Methodology used to calculate avoided emissions
Other, please specify (Life Cycle Assessment using the GaBi Life-Cycle Software)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
Cradle-to-grave

Functional unit used
Amount of surface area cleaned (2 sq mi over 5 years // 8 sq mi over 20 years)

Reference product/service or baseline scenario used
Newly manufactured Tennant T300

Life cycle stage(s) covered for the reference product/service or baseline scenario
Cradle-to-grave

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
825

Explain your calculation of avoided emissions, including any assumptions
We completed a screening level process Life Cycle Assessment (LCA) in 2018 on Certified Pre-Owned and Used RECON variants of the T300 product. The avoided emissions estimate is based on findings of the screening LCA and total RECON unit sales for 2021. The estimate is conservative because most RECON machines sold are much larger and more complex than the T300. When compared to new equipment, reconditioned (RECON) equipment avoids carbon emissions from the following areas: Scope 1 & 2 (production and refurbishment activities); upstream (Category 1, Purchased goods and services); and, to a lesser extent, downstream (Category 12, End-of-life treatment of sold products). We estimate that Tennant Company and our customers avoided more than 825 mT CO2e emissions from all RECON machines sold in 2021 compared to purchasing new equipment. Use phase assumptions of the equipment: 5 years, 250 uses/year, 3 hours in use.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
2.5

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
Yes, a divestment

Name of organization(s) acquired, divested from, or merged with
Divested Waterstar in Parkman, OH
Divested Tennant Coatings, Inc., located in northern IL

Details of structural change(s), including completion dates
Tennant completed the divestiture of our Waterstar business in Parkman, OH, in 2020, so there is no reporting for this facility in 2021. However, this facility accounted for less than 0.2% of our Scope 1+2 emissions. Additionally, in February 2021, Tennant completed the sale of its coatings business, Tennant Coatings, Inc. This divestment did not change Tennant Company's core business. The sale included a facility located in northern Illinois. As a result, the 2021 reporting boundary only includes one month of utility responsibilities for that facility.

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.1c

(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	No, because the impact does not meet our significance threshold	The Scope 1 & 2 emissions from this divested facility are less than 0.2% of the total, significantly less than our threshold of 1%, so this did not trigger a recalculation of our base year.

C5.2

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

Scope 1

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
23059

Comment
2016 is the base year for Abs 1 and Int 1, our 2030 science-based targets.

Abs 1 and Int 1 targets are market-based and do not include the IPC or Gaomei acquisitions, as they were not part of the company in 2016. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 2 (location-based)

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
13204

Comment
2016 is the base year for Abs 1 and Int 1, our 2030 Science-Based Targets.

Abs 1 and Int 1 targets are market-based and do not include the IPC or Gaomei acquisitions, as they were not part of the company in 2016. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 2 (market-based)

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
9421

Comment
2016 is the base year for Abs 1 and Int 1, our 2030 Science-Based Targets.

Abs 1 and Int 1 targets are market-based and do not include the IPC or Gaomei acquisitions, as they were not part of the company in 2016. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
106216

Comment
Over the past few years, we have incorporated the recently acquired IPC and Gaomei businesses into our carbon emissions reporting. IPC was required in 2017 and Gaomei in 2019. So, this 2016 Scope 3 category does not include IPC or Gaomei data. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
19246

Comment
Over the past few years, we have incorporated the recently acquired IPC and Gaomei businesses into our carbon emissions reporting. IPC was required in 2017 and Gaomei in 2019. So this 2016 Scope 3 category does not include IPC or Gaomei data. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
7822

Comment
Over the past few years, we have incorporated the recently acquired IPC and Gaomei businesses into our carbon emissions reporting. IPC was required in 2017 and Gaomei in 2019. So, this 2016 Scope 3 category does not include IPC or Gaomei data. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
367477

Comment
Over the past few years, we have incorporated the recently acquired IPC and Gaomei businesses into our carbon emissions reporting. IPC was required in 2017 and Gaomei in 2019. So, this 2016 Scope 3 category does not include IPC or Gaomei data. We are currently working on new, more ambitious SBTs that include these acquisitions. We intend to resubmit the targets by the end of 2022, including both IPC and Gaomei, and align with SBTi's greater level of ambition of limiting global warming to 1.5 °C. Our new base year going forward will be 2021. This 2016 category 11 total is not equal to our Int 1 target base year total because the target excludes third-party products outside our design control.

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Climate Registry: General Reporting Protocol
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
US EPA Emissions & Generation Resource Integrated Database (eGRID)

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)
24105.6

Start date

End date

Comment
2021 reported emissions include all relevant IPC and Gaomei vehicle fleets and facilities.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

Start date

End date

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
10201.5

Scope 2, market-based (if applicable)
1903.6

Start date

End date

Comment
2021 reported emissions include all relevant IPC and Gaomei vehicle fleets and facilities.

Past year 1

Scope 2, location-based

Scope 2, market-based (if applicable)

Start date

End date

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
Small facilities

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
We reassess our operational control boundary annually and did so in Q1 2022 for reporting the year 2021. What is not covered by this target are small facilities that use very little energy. All emissions from these facilities are less than 1% of total emissions covered by the target reporting boundary. When conducting the annual boundary assessment, if we identify relevant emissions not previously reported, we restate prior year emissions to include them. No boundary-related restatements are included in our CDP Climate Change 2022 response.

Estimated percentage of total Scope 1+2 emissions this excluded source represents
1

Explain how you estimated the percentage of emissions this excluded source represents
We estimated the percentage of emissions by estimating the electricity and gas usage of these small facilities. This was done in one of two ways: looking at actual usage via utility bills or by determining the square footage of the facility. Primarily, these facilities are very small storage units to store a few demonstration machines.

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, calculated

Emissions in reporting year (metric tons CO2e)
155795

Emissions calculation methodology
Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
2.66

Please explain
To estimate emissions for purchased goods and services, S&P Global used Tennant's FY2021 supplier spend combined with supplier disclosed emissions data from Sustainable1 Environmental Register and the Sustainable1 Environmentally Extended Input-Output (EEI-O) model. The results represent Tennant's supply chain emissions through all tiers up to and including raw material extraction. Suppliers with relatively small expenditures (contributing to the bottom 5% of the total expenditure) were excluded because their environmental impact is considered not material.

Capital goods

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
723

Emissions calculation methodology
Hybrid method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
To estimate emissions for capital goods, S&P Global used Tennant's FY2021 supplier spend combined with supplier disclosed emissions data from Sustainable1 Environmental Register and the Sustainable1 Environmentally Extended Input-Output (EEI-O model). The results represent Tennant's supply chain emissions through all tiers up to and including raw material extraction. Suppliers with relatively small expenditures (contributing to the bottom 5% of the total expenditure) were excluded because their environmental impact is considered not material.
We determined this category is not relevant (less than 1% of total GHG emissions) based on a quantitative analysis of 2021 data.

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

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
3043

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Last year, for FY2020, fuel and energy-related activities emissions were calculated based on Tennant's actual electricity and fuel usage data. Energy consumption data was combined with the transmission & distribution (T&D) and well-to-tank (WTT) Defra emission factors. For FY2021, emissions were modeled based on revenue and emission trends from the previous year across this category.
We determined this category is not relevant (less than 1% of total GHG emissions) based on a quantitative analysis of 2021 data.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
25114

Emissions calculation methodology
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
S&P Global used the Sustainable1 Environmentally Extended Input-Output (EEI-O) model to calculate GHG emissions for upstream transportation and distribution, based on Tennant's logistics-related spend split by mode of transport (for example, truck transportation and water transportation). For some low spend entries (representing less than 1% of the logistics spend), no data per the mode of transport was available. Thus the average logistics transportation mode split for the U.S. was used and sourced from the U.S. Department of Transportation. Input data was provided for the countries representing 95% of total employees as a minimum (emissions for less relevant countries were excluded from the analysis due to data availability).

Waste generated in operations

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
71

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
S&P Global used the Sustainable1 Environmentally Extended Input-Output (EEI-O) model and last year's data on waste treatment and disposal activities to model GHG emissions for waste generated in operations.
We determined this category is not relevant (less than 1% of total GHG emissions) based on a quantitative analysis of 2021 data.

Business travel

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
891

Emissions calculation methodology
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
For FY2020, S&P Global used the Sustainable1 Environmentally Extended Input-Output (EEI-O) model to calculate GHG emissions for business travel, based on Tennant's spend on business travel activities split by mode of transport (for example, rail travel and air travel). For FY2021, emissions were modeled based on revenue and emission trends from the previous year across this category.
We determined this category is not relevant (less than 1% of total GHG emissions) based on a quantitative analysis of 2021 data.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
8683

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
S&P Global estimated employee commuting emissions using Tennant's global headcount and country averages for commuting time, transportation mode, and distance. Global averages were used for locations where country-level data was not available.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the upstream leased assets category is not applicable to Tennant Company's business activities.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the downstream transportation and distribution category is not applicable to Tennant Company's business activities.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the processing of sold products category is not applicable to Tennant Company's business activities.

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
496239

Emissions calculation methodology
Other, please specify (Products that directly consume energy (fuels or electricity) during use)

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
We developed a product portfolio emissions calculator tool, which estimates product life emissions based on a set of assumptions for each product category. The assumptions include product life (in years), number of uses per year, and energy per use (kWh or fuel volume). These assumptions are combined with appropriate emission factors. We use the electric grid emission factor for the sold-to country for cord and battery products. We use standard emission factors for each fuel type (gasoline, diesel, or LPG) for internal combustion products. We also include an indirect emission factor, which represents indirect emissions required for wastewater treatment, water use, and maintenance activities. The indirect emissions factor is based on Life Cycle Assessment data for a representative product (T300). The indirect emissions factor is adjusted up or down based on relative product category complexity or simplicity. S&P Global has verified our calculated 2021 emissions for the use of sold products.
In developing the product portfolio emissions calculator tool, we used sales/service machine life data and hour-meter and IRIS® usage frequency data. This data comes directly (or indirectly) from our customers. Our reported Scope 3 – Category 11, Use of sold products emissions do not include intermediate products, floor coatings, or reconditioned equipment. This value also includes third-party products, whereas the Int 1 target (see C4.1b) boundary does not.

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
224

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
The emissions associated with the end-of-life treatment of the T300 family of products (T300, T300e, SS300) were estimated. For FY2020, the weight of T300 products sold and the weight of the associated packaging materials were provided by Tennant. S&P Global calculated emissions for T300 products using Tennant's data and emission factors from Defra by disposal route and material type. Disposal routes from the World Bank were used as a proxy, and it was assumed that 50% of the products were sold and disposed of in the U.S. and the rest globally. These T300 units represent 10% of Tennant’s total units sold in 2021. For FY2021, emissions were modeled based on revenue and emission trends from the previous year across this category.
We determined this category is not relevant (less than 1% of total GHG emissions) based on a quantitative analysis of 2021 data.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the downstream leased assets category is not applicable to Tennant Company's business activities.

Franchises

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the franchises category is not applicable to Tennant Company's business activities.

Investments

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined the investments category is not applicable to Tennant Company's business activities.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined there are no other applicable upstream categories to Tennant Company's business activities.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Working with S&P Global, we determined there are no other applicable downstream categories to Tennant Company's business activities.

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date
January 1 2020

End date
December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)

Scope 3: Capital goods (metric tons CO2e)

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

Scope 3: Business travel (metric tons CO2e)

Scope 3: Employee commuting (metric tons CO2e)

Scope 3: Upstream leased assets (metric tons CO2e)
0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment
We are restating our 2020 Scope 3 – Category 8, Upstream leased assets to zero. We initially stated it as 23,801 mT CO2e. After publishing, we determined this was double counting data from our Scopes 1 and 2 emissions, so we are now restating to zero.

C-CG6.6

(C-CG6.6) Does your organization assess the life cycle emissions of any of its products or services?

	Assessment of life cycle emissions	Comment
Row 1	Yes	We have a science-based target (SBT) for Scope 3 – Category 11, Use of sold products emissions. We developed a product portfolio emissions calculator tool to establish this target and for verification by the Science Based Targets initiative (SBTi). The tool estimates product life cycle carbon emissions based on a set of assumptions for each product category. Assumptions include product life (in years), number of uses per year, and energy per use (kWh or fuel volume). These assumptions are combined with appropriate emission factors. We use the electric grid emission factor for the sold-to country for cord and battery products. We use standard emission factors for each fuel type (gasoline, diesel, or LPG) for internal combustion products. We also include an indirect emission factor, representing the indirect emissions required for wastewater treatment, water use, and maintenance activities. The indirect emissions factor is based on Life Cycle Assessment (LCA) data for a representative product (T300). The indirect emissions factor is adjusted up or down based on relative product category complexity or simplicity. Using this tool, we calculate and report the carbon emissions of every product we sell if the product's use-phase carbon emissions are material. We have also used this tool when responding to customer requests on the emissions of specific products and on competitive tenders when carbon emissions are considered. The frequency of customer requests for this product level detail increases yearly. PE International (now Sphera) performed an in-depth LCA for the T300 product (see C-CG6.6a for more detail). Through this LCA, we learned that customer use is the most significant life cycle impact phase for our products, as is typical for capital goods type products. Quantifying impacts and relative impact measurements from this LCA have been the basis for significant action over the 2015-2021 period, including driving sustainability strategies for new product development projects. We have also assessed, through LCA, the environmental impacts of returned, used products which become an input to our reconditioned equipment (RECON) business. In this case, we used the T300 baseline LCA model and combined it with several reconditioning scenarios.

C-CG6.6a

(C-CG6.6a) Provide details of how your organization assesses the life cycle emissions of its products or services.

	Products/services assessed	Life cycle stage(s) most commonly covered	Methodologies/standards/tools applied	Comment
Row 1	Representative selection of products/services	Cradle-to-grave	GHG Protocol Product Accounting & Reporting Standard Other, please specify (GaBi software)	We have performed several Life-Cycle Assessments (LCAs) with business partners EcoForm and PE International (now Sphera). Product and technology LCAs include ec-H2O, ec-H2O NanoClean®, water recycling system concepts, T300, and reconditioned equipment. When we make product environmental marketing claims based on an LCA, we make that LCA public information. Company-specific examples include: LCA for ec-H2O is available here: https://www.tennantco.com/content/dam/tennant/tennantco/products/Innovations/ec-H2O%20Ecoform%20Report.pdf LCA Summary for ec-H2O NanoClean®, available here: https://www.tennantco.com/content/dam/tennant/tennantco/products/Innovations/ec-h2o-nanoclean-ecoform-flyer.pdf The LCA performed on the T300 is representative of a large portion of our product line. We have used the knowledge gained from this LCA in several ways. This includes reorganizing the Sustainability team function in 2016-2017, reallocating resources for dedicated staff to focus on products, and determining where to focus the efforts of the Sustainability Innovation Manager.

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
23.8

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
26009.2

Metric denominator
Other, please specify (Unit total revenue, in $M)

Metric denominator: Unit total
1090.8

Scope 2 figure used
Market-based

% change from previous year
8.1

Direction of change
Decreased

Reason for change
Reasons for the 8.1% Intensity decrease are efficiency projects completed and increased renewable energy purchases, as described in sections C4.3 and C8.2e. -8.1% = (23.8 - 25.9) / 25.9.
25.9 mT CO2e / $M was our stated intensity metric for 2020.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	24023.4	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	7.3	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	75	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Australia	453.7
Belgium	102.7
Brazil	298.2
Canada	713
China	318.6
France	1017.2
Germany	1394.7
India	1.8
Italy	1811.3
Japan	5.5
Mexico	209.6
Netherlands	1008.6
Norway	102.9
Portugal	168.4
Spain	618.8
United Kingdom of Great Britain and Northern Ireland	1226.3
United States of America	14653.9

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Americas - North, Central, and South America	15874.9
EMEA - Europe, Middle East, and Africa	7451.1
APAC - Asia Pacific	779.7

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Australia	181.6	181.6
Belgium	9.2	0
Brazil	118.8	118.8
Canada	1.5	1.5
China	1059.1	1059.1
France	12	0
Germany	49.1	0
India	39	39
Italy	1377.6	0
Japan	33	33
Mexico	16.2	16.2
Netherlands	577.9	195.6
Norway	1.8	197.3
Portugal	4.8	8.8
Spain	26.7	0
United Kingdom of Great Britain and Northern Ireland	39.3	52.6
United States of America	6654.2	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 CO2e)	Scope 2, market-based (metric tons CO2e)
Americas - North, Central, and South America	6790.8	136.6
EMEA - Europe, Middle East, and Africa	2098.1	454.3
APAC - Asia Pacific	1312.8	1312.8

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	633.4	Decreased	2.4	-2.4% = -633.4 / 25,911.8. Our 2020 market-based Scope 1 & 2 emissions as reported: 25,911.8 mT CO2e. In 2021, we purchased and applied 550 incremental Italy Wind GOs and 845 incremental U.S.-based RECs. The additional GOs were applied to our facilities in The Netherlands, and the additional U.S. RECs were applied to facilities in Texas, Kentucky, and MN. The total Scope 1 & 2 market-based emissions reduction realized from the purchase of these additional RECs and GOs is 633.4 mT CO2e.
Other emissions reduction activities	344.9	Decreased	1.3	-1.3% = -344.9 / 25,911.8. We completed the implementation of seven emission reduction initiative projects in 2021. The total net emission reduction achieved was 344.9 mT CO2e. This count of seven does not include the two renewable energy-based projects described above in the "Change in renewable energy consumption" section. In Sections C4.3b, these seven projects are described in full detail.
Divestment	203.6	Decreased	0.79	-0.79% = -203.6 / 25,911.8. Tennant completed the divestiture of our Waterstar business in Parkman, OH, in 2020, so there is no reporting for this facility in 2021. Additionally, in February 2021, Tennant completed the sale of its coatings business, Tennant Coatings, Inc. This divestment did not change Tennant Company's core business. The sale included a facility located in northern Illinois. As a result, the 2021 reporting boundary only includes one month of utility responsibilities for that facility.
Acquisitions	0	No change	0	Not applicable for 2021.
Mergers	0	No change	0	Not applicable for 2021.
Change in output	1279.3	Increased	4.9	4.9% = 1,279.3 / 25,911.8. The remaining gap in our emissions increase is 1,279.3 mT CO2e. This is primarily due to an increase in sales and Sales & Service-related activities compared to 2020. For example, fuel use emissions from our Sales & Service fleets increased by 10% from 2020 to 2021. Similarly, fuel use at our facilities worldwide increased 8.5% from 2020 to 2021. Even though our global electricity use also increased by almost 3%, the emissions from (location-based) electricity use decreased by about 9% due to country grid emission factors lowering as more renewable energy is added to the grids.
Change in methodology	0	No change	0	Not applicable for 2021.
Change in boundary	0	No change	0	Not applicable for 2021.
Change in physical operating conditions	0	No change	0	Not applicable for 2021.
Unidentified	0	No change	0	Not applicable for 2021.
Other	0	No change	0	Not applicable for 2021.

C7.9b

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

Market-based

C-CG7.10

(C-CG7.10) How do your total Scope 3 emissions for the reporting year compare to those of the previous reporting year?

Increased

C-CG7.10a

(C-CG7.10a) For each Scope 3 category calculated in C6.5, specify how your emissions compare to the previous year and identify the reason for any change.

Purchased goods and services

Direction of change

Increased

Primary reason for change

Change in output

Change in emissions in this category (metric tons CO2e)

32675

% change in emissions in this category

26.5

Please explain

26.5% = (155,795 - 123,120) / 123,120. FY2020 Scope 3 – Category 1 emissions were 123,120 mT CO2e.

For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic. However, global supply chain issues continued to impact our business, and more purchased goods were ordered. Both of these resulted in an increase of our Scope 3 – Category 1 emissions.

Capital goods

Direction of change
Decreased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
3397

% change in emissions in this category
82.5

Please explain
-82.5% = (723 - 4,120) / 4,120. FY2020 Scope 3 – Category 2 emissions were 4,120 mT CO2e.
In FY2020, a considerable amount of capital was spent on the construction of our new headquarters in Eden Prairie, MN. This was not present in FY2021 and was the primary reason for the decrease of our Scope 3 – Category 2 emissions.

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

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
250

% change in emissions in this category
9

Please explain
9.0% = (3,043 - 2,793) / 2,793. FY2020 Scope 3 – Category 3 emissions were 2,793 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including fuel and electricity use at our facilities globally. This is the primary reason for the increase of our Scope 3 – Category 3 emissions.

Upstream transportation and distribution

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
10485

% change in emissions in this category
71.7

Please explain
71.7% = (25,114 - 14,629) / 14,629. FY2020 Scope 3 – Category 4 emissions were 14,629 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic. However, global supply chain issues continued to impact our business, and more purchased goods were ordered often with expedited transportation (i.e., air shipment instead of ocean). Both of these resulted in an increase of our Scope 3 – Category 4 emissions.

Waste generated in operations

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
6

% change in emissions in this category
8.7

Please explain
8.7% = (71 - 65.3) / 65.3. FY2020 Scope 3 – Category 5 emissions were 65.3 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including all areas of operations at our facilities globally. This is the primary reason for the increase of our Scope 3 – Category 5 emissions.

Business travel

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
73

% change in emissions in this category
8.9

Please explain
8.9% = (891 - 818) / 818. FY2020 Scope 3 – Category 6 emissions were 818 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including business travel. This is the primary reason for the increase of our Scope 3 – Category 6 emissions.

Employee commuting

Direction of change
Increased

Primary reason for change
Other, please specify (Decrease in employees working from home)

Change in emissions in this category (metric tons CO2e)
1088

% change in emissions in this category
14.3

Please explain
14.3% = (8,683 - 7,595) / 7,595. FY2020 Scope 3 – Category 7 emissions were 7,595mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including implementing flexible work programs, enabling more employees to return to work in our facilities after working remotely due to the pandemic. This is the primary reason for the increase of our Scope 3 – Category 7 emissions.

Use of sold products

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
32227

% change in emissions in this category
6.9

Please explain
6.9% = (496,239 - 464,012) / 464,012. FY2020 Category 11 emissions were 464,012 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including increased revenue from the sale of our products. However, use of sold products emissions did not increase as high, in proportion to the increase in our product revenue sales. Some activities which helped to keep our emissions from rising as much were: continued electrification of our products (selling fewer fossil-fuel using internal combustion products as compared to electric), and global grids getting cleaner on average (meaning emission factors are trending downwards and bringing our total emissions with them).

End-of-life treatment of sold products

Direction of change
Increased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
19

% change in emissions in this category
9.1

Please explain
9.1% = (224 - 205) / 205. FY2020 Scope 3 – Category 12 emissions were 205 mT CO2e.
For FY2021, our business activities returned to more normal levels compared to FY2020 and the impacts of the global pandemic, including increased sales of our products. This is the primary reason for the increase of our Scope 3 – Category 12 emissions.

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	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
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)	14.4	105453.4	105467.8
Consumption of purchased or acquired electricity	<Not Applicable>	23059	2998	26057
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	23073.4	108451.4	131524.8

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable for 2021.

Other biomass

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
Not applicable for 2021.

Other renewable fuels (e.g. renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
14.45

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This comes from 587.2 gallons of bioethanol (E85) consumed in 2021 by some of our fleet vehicles.

Coal

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
Not applicable for 2021.

Oil

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
Not applicable for 2021.

Gas

Heating value
HHV

Total fuel MWh consumed by the organization
46621.67

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This comes from natural gas consumed in our facilities for heating and process use.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
58831.73

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This comes from diesel, gasoline, and liquid propane consumed in 2021 by our fleet vehicles and manufacturing processes.

Total fuel

Heating value
HHV

Total fuel MWh consumed by the organization
105467.85

MWh fuel consumed for self-generation of electricity
<Not Applicable>

MWh fuel consumed for self-generation of heat
<Not Applicable>

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Comment
This is the sum of all our renewable fuels, non-renewable fuels, and natural gas used in our manufacturing facilities and fleet vehicles.

C8.2e

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

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Italy

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
8300

Country/area of origin (generation) of the low-carbon energy or energy attribute
Italy

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2021

Comment
8,300 Wind GOs Retired via certiq Registry. Transaction date: 2021-03-17

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Low-carbon energy mix, please specify (Waste Heat Recovery)

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
10300

Country/area of origin (generation) of the low-carbon energy or energy attribute
United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2017

Comment
10,300 Waste Heat Recovery RECs Retired via M-RETS Registry. Transaction date: 2021-11-18

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
3750

Country/area of origin (generation) of the low-carbon energy or energy attribute
United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2017

Comment
3,750 Hydroelectric Power RECs Retired via North American Renewables Registry. Transaction date: 2021-11-18

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
614

Country/area of origin (generation) of the low-carbon energy or energy attribute
United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2020

Comment
614 Wind RECs via ERCOT Registry. 700 of these were rolled over from a 2020 purchase. We will roll over the remaining 86 RECs to be used in 2022.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
95

Country/area of origin (generation) of the low-carbon energy or energy attribute
United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2020

Comment
95 Wind RECs via M-RETS Registry. These were rolled over from a 2020 purchase.

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area
Australia

Consumption of electricity (MWh)
248

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
248

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Belgium

Consumption of electricity (MWh)
56.7

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
56.7

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Brazil

Consumption of electricity (MWh)
260.3

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
260.3

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Canada

Consumption of electricity (MWh)
60.7

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
60.7

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
China

Consumption of electricity (MWh)
1179.6

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1179.6

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
France

Consumption of electricity (MWh)
223.2

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
223.2

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Germany

Consumption of electricity (MWh)
156.5

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
156.5

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
India

Consumption of electricity (MWh)
41

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
41

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Italy

Consumption of electricity (MWh)
6380.1

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
6380.1

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Japan

Consumption of electricity (MWh)
59.3

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
59.3

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Mexico

Consumption of electricity (MWh)
38.1

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
38.1

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Netherlands

Consumption of electricity (MWh)
1746.3

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1746.3

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Norway

Consumption of electricity (MWh)
490.9

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
490.9

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Portugal

Consumption of electricity (MWh)
23.5

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
23.5

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Spain

Consumption of electricity (MWh)
167.8

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
167.8

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)
166.4

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
166.4

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
United States of America

Consumption of electricity (MWh)
14758.7

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
14758.7

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

C-CG8.5

(C-CG8.5) Does your organization measure the efficiency of any of its products or services?

	Measurement of product/service efficiency	Comment
Row 1	Yes	We measure the efficiency and energy use of all sold products where we have design control, as part of our science-based target for Scope 3 – Category 11, Use of sold products. The target is "reduce use of sold products emissions 50% per $USD of equipment revenue by 2030 from a 2016 base year." To track progress toward this target, we quantify the carbon emissions of sold products. We also closely assess and review our equipment's energy-consuming components, subsystems, and actions. This work is integral to all new product development projects.

C-CG8.5a

(C-CG8.5a) Provide details of the metrics used to measure the efficiency of your organization's products or services.

Category of product or service
Other, please specify (Mechanized equipment for cleaning industrial and commercial floors)

Product or service (optional)
New equipment is sold by several main brands (Tennant, Nobles, Alfa, VLX, IPC, and Gaomei) with hundreds of different product models.

Product model examples include Tennant T16, Tennant S20, Nobles S300, Alfa A140, Alfa Fox, VLX 838R, IPC CT90, IPC PT15, IPC CT71, Gaomei GM50B, Gaomei S-1900, etc.

% of revenue from this product or service in the reporting year
56.3

Efficiency figure in the reporting year
807

Metric numerator
tCO2

Metric denominator
unit revenue

Comment
Efficiency is reported in units of mT CO2 / $M of product revenue.

The boundary for this group includes legacy Tennant, IPC, and Gaomei products, including third-party products.

NOTE: For reported Scope 3 – Category 11, Use of sold products emissions:
1) Total emissions include third-party products. The Int 1 target (see C4.1b) boundary does not include third-party products as they are outside our design control.

NOTE: We have this data for every product model. That level of breakdown is nearly 10,000-line items, given the breadth of our product lines. It is not practical to include that information in the CDP response. We share such information with customers on request and as part of competitive tenders when the information is desired. The frequency of customer requests for this level of detail increases each year.

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
85.8

Metric numerator
Renewable electricity attributes purchased in MWh

Metric denominator (intensity metric only)
Total electricity purchased in MWh

% change from previous year
2.9

Direction of change
Increased

Please explain
We purchased 22,350 MWh of renewable electricity attributes, GOs and RECs, in 2021. We purchased 26,057 MWh of total electricity in 2021. 85.8% = 22,350 / 26,057. The percentage of renewable electricity purchased increased from 83.4% in 2020 to 85.8% in 2021. This results in a 2.9% increase year over year. 2.9% = (85.8-83.4%) / 83.4%

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	The Company has a history of developing innovative technologies to create a cleaner, safer, healthier world. The Company is committed to its innovation leadership position by fulfilling its goal to invest approximately 3% of annual sales in research and development annually. The Company's innovation efforts are focused on holistically solving our customers' needs by addressing a broad array of issues, such as managing labor costs, enhancing productivity, and making cleaning processes more efficient and sustainable. Through core product development, partnerships, and technology, we are creating new growth avenues for the Company. These new avenues for growth go beyond cleaning equipment into business insights and service solutions. With an approved science-based target for Scope 3 – Category 11, Use of sold products carbon emissions (Int 1), we make product energy use a cornerstone consideration in our research and development (R&D) activities. Our Sustainability Innovation Manager is a party to all product development projects. Environmental footprint reduction strategies and target-setting activities have been integrated into our advanced and new product development processes and project templates. These strategies and targets include energy use and carbon emission reduction, along with circular economy methods like water use and waste reduction in the use-phase and other portions of our value chain.

C-CG9.6a

(C-CG9.6a) Provide details of your organization's investments in low-carbon R&D for capital goods products and services over the last three years.

Technology area
Unable to disaggregate by technology area

Stage of development in the reporting year
<Not Applicable>

Average % of total R&D investment over the last 3 years
21 - 40%

R&D investment figure in the reporting year (optional)

Comment
We invest in a significant number of technology areas listed in the drop-down, including electromobility components, hydrogen power, machinery automation, other energy-efficient products or efficiency drivers, recycling, remanufacturing, and smart systems.

We have also been investing significantly in alternative power sources and product architecture related to electrification. The IPC all-electric hot pressure washer, PW-E100, is a great example. Traditional hot pressure washers use boilers powered by gasoline or diesel to heat their water. The PW-E100 has a purely electric design, eliminating the use of fossil fuels. This ensures greater efficiencies and zero exhaust emissions.

Another focus area in R&D has been in cleaning process efficiency through our AMR (autonomous mobile robot) product line. In 2021, we expanded upon our autonomous mobile robotic (AMR) floor cleaning product line with the release of the T16AMR. The T16AMR is the industry's first industrial robotic floor scrubber for large spaces. It is the third machine in the Company's AMR product line, along with our T7AMR Scrubber and the T380AMR. We have deployed over 5,400 robotic scrubbers, representing the world's largest fleet of autonomous floor scrubbers.

These AMR machines help our customers address labor challenges, drive efficiencies, and maintain a high standard of cleaning while safely working alongside employees, customers, and guests. They are electric and battery powered and, therefore, have less use-phase emissions than their internal combustion (IC) counterparts. Combined with the available ec-H2O NanoClean® technology, which uses less water and allows for detergent-free cleaning, this helps our customers reduce their carbon emissions and make progress toward their other environmental objectives.

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Moderate assurance

Attach the statement
2022 (FY2021) S&P Global Assurance Statement.pdf

Page/ section reference
page 1

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Moderate assurance

Attach the statement
2022 (FY2021) S&P Global Assurance Statement.pdf

Page/ section reference
Page 1

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
100

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Moderate assurance

Attach the statement
2022 (FY2021) S&P Global Assurance Statement.pdf

Page/ section reference
Page 1

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category
Scope 3: Use of sold products

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Moderate assurance

Attach the statement
2022 (FY2021) S&P Global Assurance Statement.pdf

Page/section reference
Page 1

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
71.84

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?
Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C7. Emissions breakdown	Year on year change in emissions (Scope 3)	AA1000AS Type 2 moderate-level assurance	Category 11, Use of sold products year-on-year change in emissions was verified by S&P Global Sustainable1. GHG Scope 3 – Use of sold products (2021) -- on page 1 of attachment: 2022 (FY2021) S&P Global Assurance Statement Scope 3 – Category 11, Use of sold products is the largest portion of our value chain carbon footprint. Prior year (2020), Use of sold products emissions were verified as 464,012 mT CO2 by S&P Global. See attachment: "2022 (FY2021) S&P Global Assurance Statement" Reporting year (2021) emissions were also verified as 496,239 mT CO2. See attachment: "2022 (FY2021) S&P Global Assurance Statement." The year-on-year change in Use of sold products emissions is calculated using these verified 2021 and 2020 figures. 496,239 – 464,012 = 32,227 mT CO2 The resulting 32,227 mT CO2 year-on-year absolute change is a 6.9% year-on-year increase.

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)?
Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
Other carbon tax, please specify (UK Climate Change Levy (CCL))

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Other carbon tax, please specify

Period start date
January 1 2021

Period end date
December 31 2021

% of total Scope 1 emissions covered by tax
0.2

Total cost of tax paid
623

Comment
The UK Climate Change Levy (CCL) is a carbon tax applied to our business. The CCL is applied to natural gas used at our UK locations. In 2021, the additional cost for natural gas due to CCL was 453 GBP * ($1.375 / GBP) = $623.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

For systems we are regulated by, we comply by paying carbon taxes as a cost of business. Carbon taxes currently apply to some portions of our global business. We do not track carbon taxes paid separately in each country where we operate. These taxes are not always easy to identify individually, and some are indirectly passed on to end-users.

One example of a carbon tax directly applied to our business is The UK Climate Change Levy (CCL). The CCL is applied to natural gas used at our UK locations. In 2021, the additional cost for natural gas due to CCL was 453 GBP * ($1.375 / GBP) = $623. This cost was quantified by examining invoice detail.

For systems we anticipate being regulated by, our strategy is to continue to monitor emerging regulations around carbon market mechanisms, including carbon pricing and carbon taxes, to address the externalized costs from the use of fossil fuels. We expect this trend to continue across the global economy. The impact these emerging regulations may have on the Company is a potential increase in the costs of fossil-fuel energy and the emissions they generate if comprehensive carbon market mechanisms are implemented throughout the global economy. To mitigate this impact, we monitor our energy use and implement activities to reduce energy consumption and CO2 emissions. These activities include investing in energy efficiency and reduction projects and sourcing energy from renewable sources. We also partner with our utilities, facility, operation managers, and other relevant associations to keep up to date on potential regulations, rules, and rate changes.

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?
Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Other, please specify (Quantify risk)

GHG Scope
Scope 1
Scope 2
Scope 3

Application
We have used an internal price of carbon to quantify risk and understand the full potential impacts of our energy use changes. Risk application is explained in "Impact & implication" below. We have qualitatively and quantitatively considered carbon price in long-term capital investments. This aided decision-making, especially for larger facility projects. In 2021, we continued investing in equipment to lower our energy use. Two 2021 examples are an upgrade to a compressed air system in our manufacturing facility in Minneapolis, MN, and improved HVAC controls in our Minneapolis, MN, manufacturing facility and R&D Innovation Center. Estimated annual savings are 440,000 kWh of electricity, 16,000 therms of natural gas, and over $60,000.

Tables C3.3 and C3.4 describe how climate-related risks and opportunities influence our financial planning, including capital allocation and spend.

Actual price(s) used (Currency /metric ton)
80

Variance of price(s) used
We have used $80 / mT CO2e as a uniform, current internal carbon price, which is on the high end of the current climate science guidance.

The World Bank's "State and Trends of Carbon Pricing 2022" signals a recommended 2030 carbon price corridor of $50 - $100 per mT CO2 to align with the latest climate science, so we are well within this range.

A full value chain assessment has been completed for the past eight years. We will publish "Tennant Value Chain Footprint - Financial Year 2021" shortly. The report will be available to the public here: https://investors.tennantco.com/reports/sustainability-report/default.aspx.

Type of internal carbon price
Shadow price

Impact & implication
We used an internal carbon price to assess short- and long-term economic risks from potential changes in our energy use. The assessment was at the enterprise level and covered our full value chain. We broke potential impacts down into geographic business units and functional groups. The information was communicated to the Global Leadership Team (GLT) to increase awareness and provide motivation to pursue energy and fuel use reductions and renewable energy. The GLT includes all leaders at the director level and above.

Using the $80/ mT CO2e, based on the World Bank's "State and Trends of Carbon Pricing 2022" report, for FY2021, we estimate the total costs of our Scope 1, 2, and 3 GHG emissions at more than $57 million. That amount is greater than 5% of our 2021 revenue and more than 88% of our net earnings (Source: 2021 Form 10-K).

2021 Revenue = $1.09B
2021 Net Earnings = $64.9M

Total Scope 1 + 2 (M-B) + 3 emissions = 716,793 mT CO2e

$57.3M = 716,794 mT CO2e x $80 / mT CO2e

Note: S&P Global assured our total emissions to 716,793 mT CO2e.

The results of this analysis show that the total potential costs meet Tennant's definition of a substantive financial impact. As part of our annual enterprise risk assessment (ERA), substantive financial impacts are defined by and evaluated on a 5-tiered EBITDA (earnings before interest, taxes, depreciation, and amortization) from USD 0 - USD 5M.

The results of this analysis will help inform our 2021 sustainability strategy refresh. This includes re-evaluating our greenhouse gas emissions reduction targets and other climate-related goals and activities.

To mitigate this impact, we have invested in energy efficiency and emissions reduction projects, and renewable energy. Additionally, we have invested in new technologies and products to reduce our customer's emissions and related risks. We use Life Cycle Assessments to quantify environmental impacts, including carbon emissions. Potential customer costs of future carbon taxes can be quantified and included as part of total cost and value proposition discussions.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers/clients

C12.1a

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

Type of engagement
Innovation & collaboration (changing markets)

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

% of suppliers by number
0.07

% total procurement spend (direct and indirect)
4.6

% of supplier-related Scope 3 emissions as reported in C6.5
6.8

Rationale for the coverage of your engagement
Based on our Scope 3 – Category 1 emissions, we have strategically identified one direct material category to engage with suppliers on how to make improvements on the emissions from our products. This direct material group offers a significant opportunity for Scope 3 emission reductions, as indicated by Life Cycle Assessment, as the components they provide are major energy consumers in a broad range of our products. This engagement tactic is still in the pilot phase. We plan to use the learning outcomes to ultimately guide future work with other suppliers and material groups to expand the impacts.

Impact of engagement, including measures of success
To measure the impact and success of this engagement, Tennant Company tracks annual Scope 3 emissions as detailed in C6.5 and strives to reduce emissions throughout our value chain. To drive emissions reductions, our Global Strategic Supply teams assess potential suppliers, and this assessment includes sustainability and climate-related questions, which state that Tennant Company is engaged in and open to new opportunities to reduce our environmental impact throughout our value chain. We may have a different supplier engagement strategy depending on the material group and/or the supplier. We intend to work collaboratively with our suppliers to find efficiency gains that can be applied across multiple products. Also, in 2021, we initiated a refresh of our sustainability strategy, which included a materiality assessment. Numerous material issues fall under our supply and value chain and will be critical to our updated sustainability strategy, including potential thresholds for measuring the success of engagement with our suppliers.

Comment

C12.1b

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

Type of engagement & Details of engagement

Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
71.8

Please explain the rationale for selecting this group of customers and scope of engagement
Tennant Company's Scope 3 – Category 11, Use of sold products is the largest portion of our value chain emissions. As such, we recognize the importance of engaging with all customers and increasing awareness around how our products can help them reduce their environmental impacts, including carbon emissions. We broadly communicate our product and technology environmental advantages through all sales channels.

Each product sold comes with an operator manual through which we provide essential product information to customers (100% of customers are covered). The specific information in the manuals depends on the product. Still, they generally provide information on safe use and how to minimize the environmental impact, such as proper waste disposal and battery maintenance.

Our Sales and Service teams are our primary method for engaging with and educating customers. They are the first to receive sustainability or climate-related questions and are provided educational opportunities (annual sales meeting) and have access to educational resources, including the brochures listed below, to help respond to these questions. The teams also partner with the Sustainability team, who is a resource to assist with responding to customers' questions and can provide educational opportunities as needed. Sales and Services teams receive emails to inform them of details on newly released products and updates to any sales collateral.

Another way we engage with our customers is through the "Tennant Environmental Responsibility Brochure" that identifies which of our products have third-party certifications, such as Green Seal, and which products may contribute to LEED points. We update this regularly to ensure it has the most up-to-date information and is available on the sustainability page on our website: https://www.tennantco.com/en_us/about-us/sustainability.html.

Our sustainability webpage also has a "Lithium-ion Battery Recycling Program" guide to help customers responsibly manage the lithium-ion batteries from their machines. https://www.tennantco.com/en_us/about-us/sustainability.html

Impact of engagement, including measures of success
One way we measure the success of our customer engagement is by tracking our total Scope 3 – Category 11, Use of sold products emissions, which is 71.8% of total Scope 3 emissions (C10.1c). Specifically, our goal is to reduce emissions from the use of sold products by 50% per $USD of equipment revenue by 2030.

Another way we measure the success of our customer engagement strategy is by evaluating the sales of our most popular eco-advantaged products. For example, Tennant Company's detergent-free ec-H2O technologies and products help customers achieve significant environmental footprint reduction, including avoiding carbon emissions. We have used the Life Cycle Assessment model results to show our customers how ec-H2O can provide significant carbon emission reduction, among other environmental benefits. We consider this product family a tremendous success. It continues to produce both environmental impact reductions and significant revenue and profit contributions to our business. Since the introduction of ec-H2O in 2008, our customers' cumulative carbon emission reduction has been more than 125,000 mT CO2. In 2021 alone, our customers made the decision to purchase our products with the ec-H20 technology over 5,000 times, which will help those customers avoid more than 11,200 mT of greenhouse gas emissions over the use phase of the products.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

2020-TNC-CSR-FINAL.pdf

Tennant Company Paris Agreement.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

Engagement activities are governed by Tennant Company's internal policy titled Political Contributions and Public Policy Activities. This policy specifically states that the Company engages only "in public policy activities where there are legal and support issues that directly affect our business objectives and protect or enhance the interests of our stakeholders."

The Company's current sustainability strategy, which includes climate-related issues, included a materiality assessment that identified and prioritized environmental, social, governance issues and opportunities based on our business objectives as well as the interests of our stakeholders.

In addition to this policy, another consideration for engagement activities is whether the organization's mission is consistent with our vision, business strategies, and stewardship guiding principle, which is as follows: "we will use our core value of stewardship to guide our actions. We are accountable to our colleagues, customers, investors, and communities. We care for one another and work together for our mutual safety." Additionally, the organization is evaluated to see if it is focused on sustainability issues, including climate change. These considerations in our engagement process have led us to partner with many organizations that educate and advocate for responsible energy and resource use and other changes which benefit the environment.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (American Association of Cleaning Equipment Manufacturers (AACEM))

Is your organization's position on climate change consistent with theirs?

Mixed

Has your organization influenced, or is your organization attempting to influence their position?

We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

American Association of Cleaning Equipment Manufacturers (AACEM). AACEM is a subsidiary of the International Sanitary Supply Association (ISSA). AACEM exists to serve and represent the interests of manufacturers of commercial and industrial powered cleaning equipment. Tennant Company is a member of the AACEM; an employee is on the AACEM Executive Committee (board) and is Chairman of the Technical Committee. We do not provide funding beyond membership dues. ISSA works to educate member companies and society on environmental issues like air quality and climate change. ISSA also advocates for green cleaning, which results in carbon emission reduction. Many ISSA members, including Tennant Company, have ambitious carbon-reduction targets. AACEM and ISSA have not taken an explicit position on climate change.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

3300

Describe the aim of your organization's funding

Tennant is a member of the AACEM and pays annual membership dues. Our objective is to support their mission to promote public awareness, professionalism, industry-wide safety standards, and education for the advancement of the cleaning equipment industry. AACEM is a subsidiary of the International Sanitary Supply Association (ISSA). ISSA advocates for green cleaning, and as a result, the outcomes of our membership could influence policy, law, or regulation related to green cleaning, which in turn impacts the climate.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is not aligned

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization
Non-Governmental Organization (NGO) or charitable organization

State the organization to which you provided funding
U.S. Green Building Council

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)
0

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate
Tennant has been a member of the U.S. Green Building Council since 2006, and we have pre-paid a long-term membership that is valid until 2028. Our objective is to support their mission to transform how buildings are designed, constructed, and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life. And to incorporate their practices and principles into our facility operations, construction, and renovation practices. USGBC supports green building regulations, policies, and practices. As a result, the outcomes of our membership could influence policy, laws, or regulations related to green buildings, which in turn impacts the climate.

Additionally, several Tennant products can earn project points in the USGBC's Leadership in Energy and Environmental Designs (LEED) rating system. Details of these products are outlined in the "Tennant Environmental Responsibility Brochure." We update this regularly to ensure it has the most up-to-date information and is available on the sustainability page on our website: https://www.tennantco.com/en_us/about-us/sustainability.html

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Type of organization
Non-Governmental Organization (NGO) or charitable organization

State the organization to which you provided funding
United Nations Global Compact

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)
7500

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate
The United Nations Global Compact (UNGC) is the world's largest corporate sustainability initiative. It calls companies to align strategies and operations with universal principles on human rights, labor, environment, and anti-corruption and take actions that advance societal goals. Our objective is to support their mission. UNGC supports regulations, policies, and practices aligned with their mission, and as a result, the outcomes of our membership could influence policy, laws, or that could impact the climate.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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
Underway – previous year attached

Attach the document
2020-TNC-CSR-FINAL.pdf

Page/Section reference
GHG Emissions/Energy section pgs 36 – 45; Governance pgs 85 – 99; Strategy pgs 81 – 87

Content elements
Governance
Strategy
Emissions figures
Emission targets
Other metrics

Comment
Annual Sustainability Report is our annual Communication on Progress for the UN Global Compact.

Publication
In voluntary communications

Status
Complete

Attach the document
2022 (FY2021) S&P Global Assurance Statement.pdf

Page/Section reference
Pages 1 – 2. Our organizational response to climate change and GHG emissions performance is regularly made public here: https://investors.tennantco.com/reports/sustainability-report/default.aspx

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication
In voluntary communications

Status
Complete

Attach the document
2022 (FY21) S&P Global Value Chain Footprint.pdf

Page/Section reference
Pages 5-9

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	No, but we plan to have both within the next two years	<Not Applicable>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	No, but we plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years	<Not Applicable>

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No	Please select

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
No publications	<Not Applicable>	<Not Applicable>

C16. 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.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	President & CEO	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

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

At Tennant Company, our climate goals include reducing greenhouse gas (GHG) emissions from our operations and across our value chain. We proactively report GHG emissions to create mutual accountability with our value chain partners. To ensure accountability and transparency, we set our GHG emissions reduction targets in alignment with climate science and report our progress toward targets in our annual sustainability report and to the CDP Climate Change and Supply Chain programs. This is our ninth year of CDP Supply Chain engagement.

In partnership with S&P Global, we completed a value chain assessment of RY2021. Results are included in this response.

In 2018, we set two greenhouse gas (GHG) emissions reduction targets with the Science Based Targets initiative (SBTi). We are proud to be one of the first 100 companies globally to have our science-based targets (SBT) approved and to be featured in SBTi's Scope 3 best practices in greenhouse gas management guidance document, highlighting our innovations in product design to reduce our value stream emissions. https://sciencebasedtargets.org/resources/files/SBT_Value_Chain_Report-1.pdf.

The two SBTs we set in 2018 were: (1) Reduce our Scope 1 & 2 emissions by 25% by 2030 compared to our 2016 baseline. (2) Reduce our Scope 3 emissions from the use of our products by 50%, normalized by total U.S. dollars of equipment revenue, by 2030 when compared to our 2016 baseline.

We proudly achieved our Scope 1 & 2 target in 2020 and, as a result, are in the process of developing a new goal aligned with SBTi's criteria. We are also reassessing our Scope 3 target due to our growth as a company through recent acquisitions, namely IPC Group and Gaomei Cleaning Equipment Company. Due to the timing of these acquisitions, neither IPC Group nor Gaomei Cleaning Equipment Company was included in our original SBT and, therefore, are not included in the data that we have been reporting on since 2018. These new SBTs and goals correlate with our sustainability strategy refresh that is currently underway, and we will assess the need to include additional Scope 3 categories per SBTi guidance. We are still reporting annual Scope 1 & 2 emissions from our operations and value chain because we remain committed to driving progress and will continue to work to reduce our greenhouse gas emissions throughout the process of setting our new SBTs.

SC0.1

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

	Annual Revenue
Row 1	1090800000

SC1.1

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

Requesting member
Walmart, Inc.

Scope of emissions
Scope 3

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
5405

Uncertainty (±%)
5

Major sources of emissions
The major sources of these emissions are electricity or fuel use - depending on the product power source. Water supply and waste-water treatment (and associated energy) are major sources for those products that use water in their operation.

The 5,405 mT CO2 reported here is our calculation of Scope 3 – Category 11, Use of sold products emissions for the specific products (types and quantities) purchased by Walmart in 2021.

Verified
Yes

Allocation method
Other, please specify (Direct calculation of customer use-phase emissions)

Market value or quantity of goods/services supplied to the requesting member
9290733

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
A Life Cycle Assessment (LCA) of representative products initially identified the GHG source. We developed and built a model based on the LCA to calculate our total annual Scope 3 – Category 11, Use of sold products emissions. The model was then used to create a science-based target for Scope 3 – Category 11. We have used this same model to calculate emissions associated with specific products purchased by Walmart in 2021.

The model is a product portfolio emissions calculator tool that estimates product life emissions based on a set of assumptions for each product category. The assumptions include product life (in years), the number of uses per year, and energy per use (kWh or fuel volume). These assumptions are combined with appropriate emission factors.

We use the electric grid emission factor for the sold-to-country for corded and battery products. We use standard emission factors for each fuel type (gasoline, diesel, or LPG) for internal combustion products. We also include an indirect emission factor, which represents indirect emissions required for wastewater treatment, water use, and maintenance activities. The indirect emissions factor is based on the LCA data for a representative product (T300). The indirect emissions factor is adjusted up/down based on relative model complexity/simplicity.

Our total calculated 2021 use of sold products emissions has been verified by S&P Global Sustainable1.

Evaluating the use of sold products calculation methodology (and calculator tool) was part of the verification by S&P Global Sustainable1 for this CDP response. While Walmart's specific allocated emissions number has not been verified, the methodology and overall approach used to calculate it has been verified.

Specific products purchased by (and sold to) Requesting Members are used to calculate these Scope 3 emissions. We do not make this information public. Requesting Members should contact their Tennant Company Account Manager to obtain this information.

Requesting member
Walmart, Inc.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
211.4

Uncertainty (±%)
5

Major sources of emissions
Tennant Company manufacturing processes, facility heat, and sales and service fleet vehicle fuel use.

Verified
Yes

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
9290733

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
An enterprise-wide GHG inventory identified the GHG source. Allocation is based on our total Scope 1 emissions, new product sales to Walmart, and total sales revenue (all for 2021) as follows: Scope 1 emissions * Walmart sales / total sales revenue.

While Walmart's specific allocated Scope 1 emissions number has not been verified, our total Scope 1 emissions have been verified.

Specific products purchased by (and sold to) Requesting Members are used to allocate Scope 1 emissions. We do not make this information public. Requesting Members should contact their Tennant Company Account Manager to obtain this information.

Requesting member
Walmart, Inc.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
16.7

Uncertainty (±%)
5

Major sources of emissions
Tennant Company manufacturing processes and other facility electricity use.

Verified
Yes

Allocation method
Allocation based on the market value of products purchased

Market value or quantity of goods/services supplied to the requesting member
9290733

Unit for market value or quantity of goods/services supplied
Currency

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
An enterprise-wide GHG inventory identified the GHG source. Allocation is based on our total Scope 2 (market-based) emissions, new product sales to Walmart, and total sales revenue (all for 2021) as follows: Scope 2 (market-based) emissions * Walmart sales / total sales revenue.

While Walmart's specific allocated Scope 2 (market-based) emissions number has not been verified, our total Scope 2 (market-based) emissions have been verified.

Specific products purchased by (and sold to) Requesting Members are used to allocate Scope 2 (market-based) emissions. We do not make this information public. Requesting Members should contact their Tennant Company Account Manager to obtain this information.

SC1.2

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

The published information is available at two sites.

Annual Sustainability Report and the S&P Global "Tennant Company Value Chain Footprint – Financial Year 2021:

https://investors.tennantco.com/reports/sustainability-report/default.aspx

10-K and other financial information here:

http://investors.tennantco.com/reports/sec-filings/default.aspx

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	In 2017 we developed a framework, methodology, and tool for more accurately calculating our Scope 3 – Category 11, Use of sold products emissions. The tool includes the majority of our product portfolio and all energy-consuming equipment. This tool was used to set a science-based target for reducing Scope 3 – Category 11, Use of sold products emissions. The target was approved by the Science Based Targets initiative in early 2018. Using this tool for Scope 3 emission allocation to Requesting Members has significantly improved over the previous methodology. Many of our products have multiple configurations and options available. They can also be operated in various settings. These factors make it difficult for an exact accounting of emissions. We use the tool's representative, average machine configurations, and normal operating conditions described above. As an independent quality check, each year, including 2021, use of sold products emissions are verified by S&P Global. We have performed Life Cycle Assessments (LCAs) for representative products. The LCA work helps define reasonable assumptions for product-based accounting. We strive for continuous improvement in the methods used to allocate emissions to different customers.

SC1.4

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

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

Our current capabilities are good, but we are committed to continuous improvement. As we conduct additional LCA and refine assumptions, we will enhance the accuracy of Scope 3 allocation to customers if appropriate.

In the long term, we expect all products will have internet-of-things capabilities like the IRIS® system. This capability can provide specific customer and machine use data which would be most accurate. Also, when a customer knows exactly how our products are being used in each facility, an opportunity for them to optimize efficiency is created. Realizing reduced energy use and the associated greenhouse gas emissions and water use are two environmental benefits we plan to offer with the IRIS® system. IRIS® will also enable a more precise allocation of emissions based on actual use instead of representative use scenarios.

SC2.1

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

Requesting member
Walmart, Inc.

Group type of project
Relationship sustainability assessment

Type of project
Assessing products or services life cycle footprint to identify efficiencies

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

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

Estimated payback
Please select

Details of proposal
Assess GHG footprint of current Tennant products owned and operated by Walmart and/or business partners. Determine if there are GHG emissions reduction opportunities by adjusting the product portfolio via future purchases. As part of that assessment, we would provide estimated lifetime CO2e savings and estimated payback.

Requesting member
Walmart, Inc.

Group type of project
Relationship sustainability assessment

Type of project
Sustainability audit of existing relationship

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

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

Estimated payback
Please select

Details of proposal
Share best practices and lessons learned from our respective emission reduction initiatives. Consider all company emissions, including vehicle fleet, facility-based, and supply chain initiatives. This project could be coupled with the product portfolio assessment project. As a follow-up to the exchange of information, we would provide estimated lifetime CO2e savings and estimated payback.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?
No

SC4.1

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

SC4.1a

(SC4.1a) Give the overall percentage of total emissions, for all Scopes, that are covered by these products.
4.3

SC4.2a

(SC4.2a) Complete the following table for the goods/services for which you want to provide data.

Name of good/ service
T300

Description of good/ service
Walk-behind, battery-powered, scrubber-drier

Type of product
Final

SKU (Stock Keeping Unit)
Many T300 family product variants with unique SKUs

Total emissions in kg CO2e per unit
3207.2

±% change from previous figure supplied
-15.9

Date of previous figure supplied
August 26 2020

Explanation of change
The U.S. average 2020 eGRID electricity emissions factor was used for the "Consumer Use" lifecycle stage.

The 3,207.2 kg total emissions figure is an update to the previous figure supplied of 3,815.7 kg.

-15.9 % = (3,207.2 - 3,815.7) / 3,815.7

See SC4.2b for lifecycle stage quantities which were used to update "Total emissions in kg CO2e per unit" as follows:

3,207.2 = 827 + 152 + 41.7 + 2,365.5 - 179

Methods used to estimate lifecycle emissions
ISO 14040 & 14044

SC4.2b

(SC4.2b) Complete the following table with data for lifecycle stages of your goods and/or services.

Name of good/ service
T300

Please select the scope
Scope 1, 2 & 3

Please select the lifecycle stage
Cradle to gate

Emissions at the lifecycle stage in kg CO2e per unit
827

Is this stage under your ownership or control?
Yes

Type of data used
Primary and secondary

Data quality
Good – includes the impact for some metal parts which we manufacture internally (Scope 1 & 2). It also includes some Scope 3 – Category 1, Purchased goods and services, plus Category 4, Upstream transportation emissions.

If you are verifying/assuring this product emission data, please tell us how

Name of good/ service
T300

Please select the scope
Scope 1 & 2

Please select the lifecycle stage
Manufacturing

Emissions at the lifecycle stage in kg CO2e per unit
152

Is this stage under your ownership or control?
Yes

Type of data used
Primary and secondary

Data quality
Good - includes Tennant rotomold parts, fabrication, and assembly

If you are verifying/assuring this product emission data, please tell us how

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Name of good/ service
T300

Please select the scope
Scope 3

Please select the lifecycle stage
Distribution

Emissions at the lifecycle stage in kg CO2e per unit
41.7

Is this stage under your ownership or control?
Yes

Type of data used
Primary and secondary

Data quality
Good - Assumes average shipping distance in the U.S.

If you are verifying/assuring this product emission data, please tell us how

---

Name of good/ service
T300

Please select the scope
Scope 3

Please select the lifecycle stage
Consumer Use

Emissions at the lifecycle stage in kg CO2e per unit
2365.5

Is this stage under your ownership or control?
No

Type of data used
Primary and secondary

Data quality
Good - Assumes U.S. average 2020 eGRID emissions factor for electricity used.

If you are verifying/assuring this product emission data, please tell us how

---

Name of good/ service
T300

Please select the scope
Scope 3

Please select the lifecycle stage
End of life/Final disposal

Emissions at the lifecycle stage in kg CO2e per unit
0

Is this stage under your ownership or control?
No

Type of data used
Primary and secondary

Data quality
Good – Assumes all metals are recycled.

The T300 LCA used the substitution approach for the end-of-life stage, which results in an emissions "credit" of -179 kg CO2e. The input field above does not allow negative numbers, so "0" was entered.

We used lifecycle stage quantities to update "Total emissions in kg CO2e per unit" as follows:

3,207.2 = 827 + 152 + 41.7 + 2,365.5 - 179

If you are verifying/assuring this product emission data, please tell us how

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SC4.2c

(SC4.2c) Please detail emissions reduction initiatives completed or planned for this product.

Name of good/ service	Initiative ID	Description of initiative	Completed or planned	Emission reductions in kg CO2e per unit
T300	Initiative 1	As a part of our new product development process, we continuously assess and update our existing product portfolio, including the T300 product. We will examine the T300 product's emissions reduction opportunities and, if applicable, set targets, and an estimate of emission reductions per unit will be made at that time.	Planned	

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms