Tennant Company - Climate Change 2021

C0. Introduction

C0.1

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

Founded in 1870 by George H. Tennant, Tennant Company ("the Company, Tennant, we, us, or our"), a Minnesota corporation incorporated in 1909, began as a one-man woodworking business, evolved into a successful wood flooring and wood products company, and eventually into a manufacturer of floor cleaning equipment. Throughout its 150-year history, the Company has remained focused on advancing our industry by aggressively pursuing new technologies and creating a culture that celebrates innovation.

Today, the Company is a recognized leader of the cleaning industry. We are passionate about developing innovative and sustainable solutions that help our customers clean spaces more effectively, addressing various cleaning challenges. The Company operates in three geographic business units including: the Americas; Europe, Middle East and Africa (EMEA); and Asia Pacific (APAC).

The Company is committed to empowering our customers to create a cleaner, safer and healthier world with high-performance solutions that minimize waste, reduce costs, improve safety and further sustainability goals.

The Company offers products and solutions consisting of mechanized cleaning equipment, detergent-free and other sustainable cleaning technologies, aftermarket parts and consumables, equipment maintenance and repair service, specialty surface coatings, and business solutions such as financing, rental and leasing programs, and machine-to-machine asset management solutions.

The Company's products are used in many types of 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®, Gaomei®, Rongen, IPC brands and private-label brands. The Company's 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.

Form 10-K (Annual Report) filed February 25, 2021, for the period January 1, 2020 to December 31, 2020, is available here:

https://s2.q4cdn.com/547804565/files/doc_financials/2020/ar/2020-Form-10-K_FINAL.pdf

Schedule 14A (Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934) filed March 17, 2021, is available here:

https://s2.q4cdn.com/547804565/files/doc_financials/2020/ar/Tennant-2021-Proxy-Statement-FINAL.pdf

NOTE: For 2020 we have included Scope 1+2 & 3 carbon emissions of acquisitions which closed in April 2017 (IPC Group) and January 2019 (Gaomei).

Boundary update: In the second half of 2020 there were significant changes to our Chinese operations; the legacy Tennant manufacturing operations relocated from Qingpu to Hefei. The facility consolidation provided efficiencies in manufacturing, R&D and sales for the region.

IPC and Gaomei facilities, vehicle fleets, and product emissions are not yet within the boundary for our existing target base year: 2016, for the Abs 1 and Int 1 science-based targets. We intend to make 2019 the base year for new, more ambitious science-based targets. These new targets will include IPC and Gaomei facilities, vehicle fleets, and products.

We have completed a full value chain assessment of RY2020 including legacy Tennant Company, IPC and Gaomei for all relevant Scope 3 categories. Results are included in this response and will be used to determine if additional SBTs need to be set. We will use a representative base year (not 2020, due to pandemic related business interruptions) if we need to set any new Scope 3 SBTs.

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 2020	December 31 2020	No	<Not Applicable>

C0.3

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

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

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	Tennant Company Governance Committee is one of the four committees of the Board of Directors. This committee is responsible for proposing composition and leadership for the Board of Directors, as well as ensuring the Board is understanding and complying with new corporate governance laws, regulations and policies. In August 2020 the Governance Committee added oversight of the company's programs, policies and practices relating to corporate responsibility and sustainability, including environmental, social and corporate governance (ESG) matters to its charter. These matters include climate-related issues. The Board is elected by shareholders to provide oversight and strategic guidance to senior management, including the CEO. In 2020, the CEO provided required oversight for the Sustainable Enterprise group and related initiatives. The Sustainable Enterprise group is responsible for setting and making progress toward environmental performance targets.
Chief Executive Officer (CEO)	Tennant Company's President and CEO is also a member of the Board of Directors. The CEO is ultimately responsible for overall financial, environmental, and social governance of the business including climate-related issues. In 2020, the Sustainable Enterprise group reported directly to the CEO, and the CEO provides required oversight for the Sustainable Enterprise group and related initiatives. The CEO also advocates for action toward climate-related objectives and goals across all of the business units, geographic locations, and functional groups which comprise the business. The Sustainable Enterprise group is responsible for setting and making progress toward environmental performance targets. These targets include carbon emission reductions for Scope 1+2, along with Scope 3, Category 11 - Use of sold products.

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 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>	The Board of Directors Governance Committee gained oversight over Environmental, Social, and Corporate Governance (ESG) matters in August of 2020. This includes climate-related issues. The Governance Committee meets four times per year, with one meeting scheduled for an annual update on ESG progress for the company, and additional time is spent reviewing the annual Sustainability Report. The Governance Committee will oversee the Company's programs, policies and practices relating to corporate responsibility and sustainability, including ESG matters. The CEO and Senior Management Team prepare and present company strategies and the operating plan to the Board of Directors. Business and functional unit leaders also present specific elements of strategy and plans. As part of the annual planning cycle, consideration is given to whether initiatives match up with our Stewardship Guiding Principle - "We will use our core value of stewardship to guide our actions. We are accountable to our colleagues, our customers, our investors and our communities. We care for one another and work together for our mutual safety." Board review includes strategies, objectives and budgets. The Board guides the strategy and approves the operating plan. Strategy reviews are typically scheduled for the August Board meeting and are added to the agenda as important matters arise. Operating plan review and approval for the next fiscal year is typically completed at the December Board meeting. The Board reviews the annual Enterprise Risk Assessment (ERA) which identifies, defines, and ranks the company's annual risks. The ERA review is scheduled for the December Board meeting. The Board monitors progress toward specific risk mitigation action plans. For 2020, seven of the twelve top risks mapped to climate-related issues. See C2.2a & C2.3a for full detail. With the regularly scheduled August strategy and December ERA reviews, the CEO reports at least half-yearly on items which map to climate-related issues. The Board also oversees and approves major capital expenditures, acquisitions and divestitures, and oversight is scheduled as important matters arise. As one example, after acquiring the new headquarters property in 2019, it was decided in 2020 to demolish an older, less efficient, unused building on campus. This demolition occurred in Q2 2020 and avoided costs and emissions related to keeping the building maintained until it would have been needed due to business growth. When the Board reviews acquisitions, risks related to the acquired venture's properties and other assets are reviewed. This may include vulnerability to extreme weather events and other potential business disruptions connected to long-term climate change.

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
Other committee, please specify (Governance Committee)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly
Other, please specify (Director, Sustainable Enterprise)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	As important matters arise

C1.2a

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

The President and Chief Executive Officer (CEO) is ultimately responsible for all aspects of company performance, including climate-related issues. The President and CEO reports directly to the Board of Directors. The President and CEO works closely with the Chair of the Board to set and approve the agenda of Board meetings, to ensure that there is an appropriate flow of information to and from the Board, and to ensure that management properly and adequately addresses matters of interest to the Board.

Beginning in Q3 2020, the Governance Committee of the Board of Directors updated their charter to include oversight of the Company's programs, policies and practices relating to corporate responsibility and sustainability, including environmental, social and corporate governance (ESG) matters. This oversight includes climate-related issues. This Committee will assist in setting the new ESG strategy and will review ESG reporting prior to publishing. The committee has an annual update on progress being made against the ESG strategy, with the potential to discuss pressing matters as they come up. The Sustainable Enterprise team will be responsible for executing the ESG strategy with the assistance from other departments and functions within the organization.

Tennant Company recognizes that climate-related issues require the attention of an***enterprise-level team*** working across all company business units and functions. In 2013, we established a strong governance framework by creating a new position, Director of Sustainable Enterprise (SE). This position reports directly to the President and CEO. With the SE Director reporting directly to the CEO, the organization understands the importance of our commitments to reduce carbon emissions.

The Sustainable Enterprise (SE) Director has oversight on climate-related issues because they oversee the SE Team, which is responsible for all climate-related issues within Tennant. With this team, the SE Director has responsibility for monitoring climate-related impacts on the company and is responsible for establishing GHG emission-reduction goals and targets, making progress toward these goals, and achieving corporate climate targets.

The SE Director and Team interact with all functional and business units to plan and execute projects which capitalize on climate-related opportunities and mitigate climate-related risks. The SE Director and Team provide periodic updates to the CEO and Senior Management, along with project-specific updates as required. Three specific examples from 2020 are: 1) organizing an ESG current state + roadmap briefing for a new Board Member at February 2020 Board Meeting; 2) briefing the General Counsel on current state of ESG in preparation for August 2020 Governance Committee meeting; and 3) reviewing and gaining CEO, CFO, General Counsel, and Chief Administrative Officer approval to participate in the United Nations Global Compact (UNGC) Sustainable Development Goals Ambition Accelerator in Q4. We received acceptance in December 2020 for the program starting in January 2021.

Areas of specific responsibility for the SE Director and Team include Tennant Company's four Sustainable Enterprise Focus Areas, one of which is Greenhouse Gas (GHG) Emissions/Energy. This Focus Area includes facility and fleet energy efficiency, energy supply arrangements, renewable energy purchasing, carbon emissions and emission-reduction targets for Scope 1, 2, and 3.

Our short- and long-term goals for the GHG Emissions/Energy Focus Area include: 1) broadening and accelerating energy and fuel-reduction initiatives; 2) developing and entering into more renewable energy supply arrangements; 3) developing products and technology with reduced environmental impact including carbon emissions; 4) achieving progress toward our approved Science-Based Targets for emission reduction. Progress on all these fronts represents Tennant Company's spectrum of effort toward mitigation of long-term climate-related risks.

The SE Director and Team are also responsible for objectives, goals and metrics in the three other Focus Areas: Products, Waste, and People & Communities.

Climate-related issues within Tennant Company are monitored by the SE Director and addressed by direct engagement with Senior Management on relevant initiatives and projects. Specific examples include reviewing the Annual Operating Plan for climate-related issues addressed by the capital investment profile. Also, capital investment projects are reviewed during the approval cycle for climate-related issues. For projects applicable to climate-related issues, the carbon emission impacts are quantified.

One way climate-related issues and trends which affect Tennant Company from the outside are monitored is by participation in external organizations. Example organizations include 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 inventivized	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 strong 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 takes carbon emissions and climate-related issues into account 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 increased probability of long-term company profitability, the CEO is more likely to see enhanced incentive payments.
Other, please specify (Director, Sustainable Enterprise)	Monetary reward	Emissions reduction target	In 2020 the Director, Sustainable Enterprise had performance goals tied to specific objectives and projects in the four Sustainable Enterprise Focus Areas. GHG Emissions/Energy is one Focus Area, along with Products, Waste, and People & Communities. Performance goals are defined annually and reviewed at least quarterly. In 2020, performance goals related to the management of climate-related issues included: - Making progress toward the Scope 1+2 absolute target (Abs 1) set in 2017. Through 2020 we achieved 139.3% of target progress in 28.6% (4/14) of time to target. - Completing and gaining approval for the CDP 2020 Climate Change Questionnaire and Supply Chain response. - Evaluating renewable energy options for Europe-based facilities and expanding Guarantees of Origin (GO) purchases. In 2020, Europe-based GO purchases were increased by more than 230%. - Evaluating renewable energy options for U.S.-based facilities and expanding Renewable Energy Certificate (REC) purchases. In 2020, U.S.-based REC purchases were increased by more than 4%. - Continuing internal accounting for renewable electric energy at our two primary Minneapolis facilities. Supply agreements in the form of Community Solar Garden (CSG) subscriptions were signed in 2016. These subscriptions are tied to our main facility at 701 North Lilac Drive (Manufacturing) and the Innovation Center (Engineering) facility at 815 Zane Avenue North. A total of twelve CSGs were on-line at 2020 year-end. These CSGs generated over 10,600 MWh of electricity, providing additional renewable capacity on the grid. Renewable Energy Certificates (RECs) for electricity generated by these CSGs go to the local, fully regulated utility - Xcel Energy. More detail on these and other projects appears throughout this response.
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. In 2020, a total of 532 employees received monetary rewards for Stewardship via APPLAUSE. Total monetary value of these awards was more than $49,000. Each year, some APPLAUSE awards for Stewardship reward employee efforts which reduced company environmental impact or achieved other forms of ESG improvement. As one example, four employees received awards for environmental stewardship. The CS5 product launch team incorporated a lithium-ion battery recycling program for spent CS5 batteries through Call2Recycle. The new for Tennant program can be used across multiple products and future small-format lithium-ion battery products.
All employees	Monetary reward	Other (please specify) (Stewardship - Reduce environmental impact)	Our annual Leading Edge program recognizes employees who have made significant contributions toward 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 which warrant the Leading Edge award often include elements of good Stewardship. In 2020, more than 300 individuals were nominated for the 130 different Leading Edge awards. Nominated individuals were notified in April 2021. Twenty-eight individuals were then chosen to receive the Leading Edge award, with announcement of the winners in June 2021. The Leading Edge program is recognition based, but does include an element of monetary reward that is normally in the form of a three-day trip with partner/spouse to a destination. Due to COVID safety protocols, the standard trip was replaced by a monetary award in 2020. Some of the winners for 2020 were recognized for their work on our newest eco-advantage products with AMR technology. The AMR products allow our customers to clean more efficiently because moving from human- to robot-operated often leads to improved efficiency, and when the task is completed in less time, the energy use and carbon emissions are also reduced. These robots execute tasks with reliable consistency since they repeat the cleaning path time and time again once stored into memory. They do not get distracted or stray from their program and accidentally go back over an already-cleaned portion of the floor like a human operator might.

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	100	

C2.1b

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

Each year the Finance group and internal audit partner Ernst & Young (EY) develop materiality and deficiency reporting thresholds. These thresholds are reviewed annually by the Board of Directors Audit Committee in April and approved. Overall materiality, or "substantive financial impact," is calculated using a combination of 0.5% of revenue and 5% of adjusted pre-tax income and applying judgment to determine the definition of substantive impact. For 2020, substantive financial impact was $5,000,000.

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
More than once a year

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

Description of process
Identifying and assessing climate-related risks and opportunities is an ongoing, regular activity - part of the Enterprise Risk Assessment (ERA) process. The ERA is performed annually at the Company (full enterprise) level. Climate-related risks and opportunities are identified and assessed as part of the ERA process. We do not use distinct processes to identify and/or assess any sub-categories of company and asset level risks. The overall ERA process is led by Internal Audit partner Ernst & Young (EY), who begins by refreshing the enterprise risk assessment framework in Q3. The next step in the process is a survey (process administered by EY), which includes leaders from all business units (geographic and product type) and functions (Finance, Global Engineering, Global Marketing, Operations, Legal, Human Resources, Sustainable Enterprise, etc.). For 2020, approximately 90 senior leaders representing all geographies, business units, and functional units were anonymously surveyed. Risk information is collected and aggregated by EY, then provided to the internal Risk Committee. Eleven leaders from all relevant areas comprise the Risk Committee. With the survey input and trend information from various sources, the Risk Committee updates the enterprise risk profile. The steps taken include risk prioritization, risk remediation planning, reviews with the Senior Operating committee, then reviews with the Senior Management Team, and finally reviews with the Board of Directors. Risks, and their associated remediation action plans, are monitored, reviewed, and reassessed quarterly. This process continues until the annual ERA update begins again in June the following year. Climate-related risks have short- and long-term implications. Consideration beyond six years is important because the long-term implications of today's actions are significant. The scope of the ERA includes all significant sites or assets. For example, key Operations group employees identify and assess risks associated with individual manufacturing facilities at the asset level (Hefei, China; Holland, MI; Limeira, Brazil; Minneapolis, MN; Uden, The Netherlands; and Venice, Cremona and Reggio Emilia (Province of Padua), Italy). The ERA completed in Q4 2020 includes twelve top risks, seven of which encompass climate-related risks. Climate-related risks and opportunities are identified and embedded within these seven ERA risk/opportunity categories: Supply Chain Efficiency and Effectiveness; Macroeconomic Factors (e.g., Recession, Geopolitical Unrest, Taxes and Tariffs, etc.); Product Pricing Strategy & Execution; Product Costing; Competition; Business Interruption and Resiliency; and Strategic Execution. Additional detail on risk mapping follows and more detail is provided in C2.2a. Within the Supply Chain Efficiency and Effectiveness, Product Pricing Strategy & Execution, Product costing, and Strategic Execution categories, we assess upstream and operational risk associated with climate change. This includes current and potential future carbon market mechanisms. Within Supply Chain Efficiency and Effectiveness and Business Interruption and Resiliency categories, we assess the risks associated with extreme weather that could adversely impact our facilities and employees, as well as those of our supply chain partners. Acute Physical Risks are identified specifically with the Business Interruption and Resiliency risk and include climate-related weather events such as floods or tornadoes. 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. A register of properties is maintained by the Tax and Treasury Department, as a checkpoint on current and appropriate types of insurance coverage. Within the Macroeconomic Factors category, we assess the positive and negative impact of events which could strengthen or weaken local and global economies, in addition to potential reputation- and litigation-related risks. We also identify and assess risks and opportunities related to changing regulations that may impact our products. Our products use batteries, engines, and other regulated items which are associated with product use-phase carbon emissions. Our Product Regulatory Affairs (PRA) group, within the Legal Department, is responsible for monitoring this sub-category of regulatory risks and issues. PRA personnel review upcoming and current regulations and then work with product marketing, engineering and global sourcing teams to determine if and/or how we will prepare and ultimately respond to the new rules. Examples of specific product changes as a result of emissions regulations include the discontinuation of Models 4300 and Sentinel that were announced in 2019 and finalized in 2020. Within the Product Pricing Strategy and Execution, Product Costing and Competition categories, we assess the Market risks and opportunities around Tennant Company's commitment to industry innovation leadership and providing products that clean in a more sustainable, environmentally friendly manner. With the introduction of our Global Positioning Strategy (GPS), the enterprise has strived to identify and execute on opportunities as they fall into our three main pillars: win where we have competitive advantage; reduce complexity and build scalable processes; and innovate for profitable growth. Climate-related opportunities are inherent in the approach we are taking to achieve these goals. As new opportunities related to products & services and market are identified through product innovation and ideation, they are evaluated with the GPS strategy in mind, considering focus areas such as product simplification and platforming that have inherent climate-related benefits to the business. As new opportunities arise within the business and operations they are evaluated for reduced complexity and building scalable processes, which improve efficiency and likely reduce energy consumption resulting in reduced Scope 1+2 emissions. Opportunities for our direct operations that are related to Resource Efficiency, Energy source, Resilience and Services are managed within the various businesses, including our direct operations, all the while considering how we can innovate for profitable growth. We've seen success in the GPS strategy and are motivated to continue to drive it forward.

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	We include the Current regulation risk type in the Macroeconomic Factors category of our Enterprise Risk Assessment (ERA). Due to the international scope of Tennant Company operations, we are subject to a complex system of commercial, tax and trade regulations around the world. The Company has business entities in many countries including Australia, Belgium, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, The Netherlands, Norway, Portugal, Spain, United Kingdom of Great Britain and Northern Ireland, and United States of America. Recent years have seen an increase in the development and enforcement of laws regarding carbon taxes and emissions trading schemes (ETS), trade, tax compliance, labor and safety, and anti-corruption (for example, the United States (U.S.) Foreign Corrupt Practices Act), and similar laws from other countries. Our numerous foreign subsidiaries & affiliates are governed by laws, rules and business practices that differ from those of the U.S., but because we are a U.S.-based company, oftentimes they are also subject to U.S. laws which can create a conflict. Despite our due diligence, there is a risk that we do not have adequate resources or comprehensive processes to stay current on changes in laws or regulations applicable to us worldwide and maintain compliance with those changes. Increased compliance requirements may lead to increased costs and erosion of desired profit margin. As a result, it is possible that the activities of these entities may not comply with U.S. laws or business practices or our Business Ethics Guide. Violations of U.S. or local laws may result in severe criminal or civil sanctions, could disrupt our business, and result in an adverse effect on our reputation, business and results of operations or financial condition. We cannot predict the manner in which existing laws might be administered or interpreted. In addition to general compliance, we closely monitor product regulatory compliance. The Product Regulatory Affairs (PRA) group assesses, filters, & ranks potential impacts of Current Regulation on our evolving business. Our products are complex, mechanized equipment. One example is the internal combustion powered Model S30 sweeper. A number of regulations apply such as U.S. EPA internal combustion engine regulation 40 CFR Part 1039. If an engine supplier proposed a change, PRA would work with internal stakeholders to quantify impact, determine required actions, and ensure compliance.
Emerging regulation	Relevant, always included	We include the Emerging regulation risk type in the Macroeconomic Factors category of Tennant Company's Enterprise Risk Assessment (ERA). Due to the international scope of our operations, we are subject to a changing system of commercial, tax and trade regulations around the world. 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. Increased compliance requirements for Emerging regulation may lead to increased costs and erosion of desired profit margin. We cannot predict the nature, scope or effect of future regulatory requirements to which our operations might be subject. For example, the reformed EU Emissions Trading System (ETS) will take effect in 2021. Tennant Company's 2017 acquisition of IPC Group resulted in a broader set of EU direct operations including those in Norway and Italy. However, no Tennant Company operations are included in Phase 4 of EU ETS. Assessing the scope of future EU ETS Phases, before they take effect, is an example of considering future or Emerging regulation risk. Tennant Company products are complex, mechanized cleaning equipment. Two examples are the internal combustion powered rider M30 integrated sweeper/scrubber-drier and the battery powered rider T16 scrubber-drier. A number of regulations apply to these products including engine emissions regulations for the M30. Tennant Company monitors Emerging regulations closely. Internal combustion engine regulations like U.S. EPA 40 CFR Part 1039—CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES were under review and consideration for several years before they went into effect on 1 January 2019. Another regulation example relevant to battery-powered equipment sold in the EU, like Model T16, is Machinery Directive 2006/42/EC. The Product Regulatory Affairs (PRA) group (Legal Dept.) assesses, filters, and ranks potential impact of Emerging regulation on our business. PRA is closely involved with both technology and product development. PRA contributes to decision making on which emerging regulations should be proactively addressed. We also see Emerging regulation as an area of tremendous opportunity via increased demand for lower emissions products and services. This directive guarantees a high level of protection for EU workers and citizens through a combination of mandatory health and safety requirements.
Technology	Not relevant, explanation provided	No climate-related Technology risk types are currently assessed as relevant. Technological improvements or innovations that support the transition to a lower-carbon, energy-efficient economic system are something Tennant Company sees as an area of tremendous opportunity via increased demand for lower emissions products and services. For example, electrification of our products is an area of current investment; for example, the recent S16 is now only available with battery as a power source. Another example is the development of the CCV Series of outdoor sweepers with all-electric power. This new product line has been publicized and will be introduced by Gaomei in the future.
Legal	Not relevant, explanation provided	No climate-related Legal risk types are currently assessed as relevant, beyond those mentioned in Current and Emerging regulation risk types. Tennant Company's business model is to develop, manufacture, sell, and service capital goods products. This includes mechanized cleaning equipment, detergent-free and other sustainable cleaning technologies, aftermarket parts and consumables, equipment maintenance and repair service, specialty surface coatings, and business solutions such as financing, rental and leasing programs, along with machine-to-machine asset management solutions. Through the 2017 acquisition of IPC Group, our product portfolio expanded to include pressure washers, cleaning tools and supplies, such as multi-purpose cleaning trolleys, window-washing systems, antibacterial microfiber mops and cloths, and a wide array of consumables. Through the 2019 acquisition of Gaomei, our product portfolio expanded again with product categories similar to those described above. Given our business model, we have not identified any climate-related litigation claim risks.
Market	Relevant, always included	We include this risk type in three categories of our Enterprise Risk Assessment (ERA): 1) Competition; 2) Product Pricing Strategy & Execution; and 3) Product Costing. Climate-related Market risk types may include competitor products and technologies which are market advantaged due to lower carbon emissions or other environmental impact reduction. Tennant Company products range from canister vacuum cleaners like Model V-CAN-10 to rider-integrated, sweeper/scrubber-drier Model M30. Our products are sold in competitive markets throughout the world. 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 can include environmental footprint improvements such as reduced carbon emissions and less water use. We believe that the performance and price characteristics of our products will produce competitive solutions for our customers' needs along with lower total cost of ownership. However, 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 segment our market by categories such as Commercial, Industrial, etc. Each category has a cross-functional group responsible for the product line offering, value proposition, and product roadmap. These groups are known as Category Business Teams (CBT). The potential impact of Market type risks on the business is assessed, filtered, and ranked by each CBT. For example, a competitor could launch a lower-cost, stand-on scrubber-drier that results in reduced sales of our T350 and Speed Scrub® 350 models. Or a competitor could launch a walk-behind scrubber-drier that results in reduced sales of our Gaomei GM-65RBT or IPC CT 71 models. In such a case, the Commercial CBT would assess and quantify the risk, determine potential responses, and make recommendations. The recommended approaches would be considered and the most appropriate action selected. A project would be scoped and then prioritized by the cross-functional New Product Leadership Team. Resource needs would then be defined and activity scheduled within operating constraints (budgets, etc.).
Reputation	Not relevant, explanation provided	No climate-related Reputation risk types are currently assessed as relevant. Tennant Company's business model is to develop, manufacture, sell, and service capital goods products. This includes mechanized cleaning equipment, cleaning tools and supplies, such as multi-purpose cleaning trolleys, window-washing systems, detergent-free and other sustainable cleaning technologies, aftermarket parts and consumables, microfiber mops and cloths, equipment maintenance and repair service, specialty surface coatings, and business solutions such as financing, rental and leasing programs, along with machine-to-machine asset management solutions. Tennant Company's commitment to science-based targets, demonstrated Scope 1+2 emission-reduction progress, and continued investment in eco-advantaged products and technology are actions we believe enhance our strong reputation. Many of our largest customers undertake similar actions. When competing for business, we have noted these customers seek business partners that will not detract from their own reputations. We are an actively engaged member in our communities, both in terms of "giving back" and participation in organizations working to mitigate climate change. The Sustainable Growth Coalition (the Coalition) is a good example. Nearly 30 businesses and organizations have formed the Coalition, a business-led leadership group fostering cross-sector collaboration to advance a circular economy as a more prosperous alternative to the current linear economy. The Coalition elevates the business case for circularity across systems including materials, water and clean energy systems by coming together for something greater than ourselves. The Coalition drives solutions to complex, global challenges; influences, leads and tests new approaches to create a more resilient economy and improve our regional competitiveness by building relationships and facilitating working together; and advances social, racial and economic equity by cultivating conversations across differences. The Coalition advances innovative solutions and enables positive transformation to create an economy where all energy is renewable, waste is eliminated, natural resources and water are protected and preserved, and people are valued. Collaborative action across sectors and industries fuels economic growth and regional competitiveness, responsive to the demands of customers, consumers, and communities.
Acute physical	Relevant, always included	We include this risk type in the Business Interruption and Resiliency category of our Enterprise Risk Assessment. An Acute physical event like a tornado or flood could cause a business disruption. Extreme weather events continue to increase in both severity and frequency. The 22 separate billion-dollar weather and climate disasters across the United States represent the highest total number of events (6 more than previous records of 16 events in 2017). The billion-dollar events of 2020 included a record 7 disasters linked to tropical cyclones, 13 to severe storms, 1 to drought, and 1 to wildfires. The 22 events cost the nation a combined $95 billion in damages. https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical 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. These risks are quantified by insurance agency ratings and premiums. As examples, our facilities in Texas and Minnesota are exposed to greater tornado risk compared to our facilities 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 floodplain. As such, we must pay for a flood insurance rider on the Louisville facility to mitigate the potential financial impact of flood. We rely on our computer systems, ERP software such as SAP, manufacturing plants, and distribution facilities to efficiently operate our business. If we experience an interruption in the functionality in any of these items for a significant period of time for any reason, including climate-related events, we may not have adequate business continuity planning contingencies in place to continue our normal business operations on a long-term basis. In addition, the increase in customer-facing technology raises the risk of a lapse in business operations. Therefore, significant long-term interruption in our business could cause a decline in sales, an increase in expenses, and could adversely impact our financial results. Extreme weather event risks are low, given location of our facilities and presence of backup computer systems/data centers. But they must be considered and mitigated with both appropriate insurance and strong business continuity plans.
Chronic physical	Not relevant, explanation provided	No climate-related Chronic physical risk types are currently assessed as relevant. We do not believe any Tennant Company direct operations are located in high-risk areas from the Chronic physical risk perspective. For example, no manufacturing or logistics facilities are located in low sea level or subsidence-prone areas; i.e., gradually caving in or sinking. Longer-term shifts in climate patterns (e.g., sustained higher temperatures) that may cause sea level rise or chronic heat waves are not currently as likely to affect our locations as Acute physical risks. This assessment could change over time, so Chronic physical risk types are reviewed for relevance on an ongoing basis.

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?
Downstream

Risk type & Primary climate-related risk driver

Current regulation	Mandates on and regulation of existing products and services

Primary potential financial impact
Decreased revenues due to reduced demand for products and services

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

Company-specific description
There are many areas of regulation which affect Tennant Company products. Recent regulations from the EPA and EU have affected internal combustion (IC) engines and fuel delivery systems which we use in our products. These regulations have the potential to significantly increase product cost and reduce revenue from the sale of our products. We must monitor the regulatory climate closely and take action in advance to be prepared. Such regulations also have the potential to impact material selection and costs. Those impacts can apply to all products and all manufacturers in certain industries. The financial impact could be lost sales, along with both cost of compliance and opportunity cost from diversion of key resources from new product development to compliance programs. As mentioned, some of our products use IC engines. Specific examples include the S20 and M30 models. A current and specific example of this type of regulatory change occurred in RY2019. On January 1, 2019, Tier 4 and Stage V emissions regulations took effect in the USA and EU, respectively. These standards were adopted to reduce pollution in the form of particulate matter, hydrocarbons, and NOx. Engine manufacturers utilize various combinations of exhaust after-treatment technologies. In order to have our products updated and ready for sale, we needed to work well in advance of the effective date to manage the risk. Total company revenue from IC products continues to decline slowly due to cost and complexity of maintaining IC equipment, combined with advances in battery and other power source technologies. We are mitigating this decline by developing and introducing lithium-ion powered products such as the Model S16 launched recently. But IC products make up a material portion of our revenue/profit. Certain customer needs and situations (runtime, lack of access to charging, etc.) cannot currently be addressed without an IC power supply. But battery technology and related regulations are advancing rapidly and must be closely monitored.

Time horizon
Medium-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)
3525000

Potential financial impact figure – maximum (currency)
8460000

Explanation of financial impact figure
Our M30 product model has an internal combustion engine and is a good company-specific example. The list price for an M30 is $70,500. The cited range of potential revenue impact ($3,525,000 - $8,460,000) reflects selling between 50 and 120 fewer M30 products. This could occur if the engine price increased significantly ($3,000 - $6,000) due to a regulatory mandate. The magnitude of negative revenue impact would likely be tied to the magnitude of cost/price increase. Such a cost increase could make customers decide to temporarily forego new equipment purchases. They could choose a lower-cost option, such as repairing an existing machine, renting equipment for the short term, or purchasing reconditioned equipment. Precise financial impact would depend on the specific mandate and/or regulation, the product elements affected, and number of models affected.

Cost of response to risk
200000

Description of response and explanation of cost calculation
Our Director of Product Regulatory Affairs, along with staff members, is kept up to date on current and emerging regulations that pertain to our products and services through partnerships with organizations such as: EUnited Cleaning, AACEM, and Responsible Minerals Initiative. Product Regulatory Affairs (PRA) personnel review upcoming and current regulations and then work with Product marketing, engineering and global sourcing teams to determine if and/or how we will prepare and ultimately respond to the new rules. Examples of specific product changes as a result of emissions regulations include the discontinuation of Models 4300 and Sentinel that were announced in 2019 and finalized in 2020. Our management method to address this risk is active engagement. We strive to understand potential regulatory implications well before they take effect. By proactively engaging, alternatives can be developed and tested, before regulatory change takes effect. This ensures compliance and reduced risk across our value chain. PRA personnel are involved in each product development project, as well as governance of our product development process and roadmap. Active PRA participation provides good, long-term regulatory insight to our product roadmaps. Management method examples include ensuring our products are compatible with compliant engines available in the broadest markets. Another method is to seek cost-reduction ideas and concepts to partially or fully offset added costs from more complex internal combustion systems. For example, if a regulatory-driven change causes a $500 increase in engine cost, we would review product design in depth to seek offsetting cost reductions. A more expensive air pollution control system could be offset by improved production efficiency from lean manufacturing or other continuous improvement initiatives. This risk affects a number of our product models with internal combustion engines including S20 (some variants), S30, M20, T20, M30,

800, 1250, 1280, 1404, 1450, 161, and 191. Another management method is discontinuing product models affected by regulatory changes. We took this approach with the announcement of the discontinuation of Models 4300 and Sentinel in 2020, and the last orders completed in 2020. Both were internal combustion powered. The technical complexity of internal combustion engines, and the regional/country variation in regulation, make this market sub-segment less attractive as each year passes.

Comment
Cost of response to risk noted above is a fraction of Product Regulatory Affairs group budget. Precise cost of management would include other employee compensation and project costs (hardware, testing, etc.). Precise cost would depend on the exact scope of mandate and/or regulatory change.

Identifier
Risk 2

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
There are externalized, societal costs from the use of fossil fuels. Explicit carbon pricing (carbon tax) along with cap and trade have been implemented in some markets around the world to address these externalities. Tennant Company expects this trend to continue. Quantifying this risk, and updating the risk picture at least annually, is important work. Tennant Company's largest manufacturing facilities are located in advanced economies such as Italy, The Netherlands, and USA. These facilities use substantial amounts of electricity and natural gas. We have direct Sales and Service operations in many more advanced economies such as Australia, Canada, France, Germany, Italy, Japan, Spain, Portugal, and UK. These operations have vehicle fleets which use substantial amounts of gasoline and diesel fuel. We have started to see some carbon tax directly applied to our business in the United Kingdom. The UK Climate Change Levy (CCL) is applied to electricity used at our Northampton and Bolton, UK, locations. In 2020, the additional cost for electricity due to CCL was 1,316.94 GBP * ($1.39 / GBP) = $1,830.55. This cost was quantified by examining invoice detail, including the CCL rate decrease from 0.847p/kWh to 0.811p/kWh in April 2020. The IEA has estimated the externalized cost of carbon as $63 / mT CO2 and $140 / mT CO2 for 2025 and 2040, respectively, in advanced economies. Source: "World Energy Model, Scenario analysis of future energy trends, Report — May 2021." This overall risk (Carbon pricing mechanisms - increased pricing of GHG emissions) has both direct operations (Company) and indirect (Supply chain) implications. Risk 2 captures the direct operations (Company) portion of the overall risk.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Low

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)
1632443.4

Potential financial impact figure – maximum (currency)
3627652

Explanation of financial impact figure
This operational cost impact estimate is based on 2020 total Scope 1+2 GHG emissions (market-based) of 25,911.80 mT CO2e and the IEA 2025 and 2040 carbon price estimates in advanced economies. $1,632,443.40= 25,911.80 mT CO2e * $63 $3,627,652.00 = 25,911.80 mT CO2e * $140 Note: Adding up Scope 1 & 2 emissions from our Trucost-assured values gives a round 25,911 mT CO2e (22,582 +3,329 mT CO2e). We have decided to use the more precise value in our calculation.

Cost of response to risk
0

Description of response and explanation of cost calculation
Tennant uses associations and relationships with our utilities to keep up to date on potential rule and rate changes. The Sustainable Enterprise team works with the facility management teams and office managers to monitor utility usage and potential carbon tax rules or regulations that may apply to our business. The teams focus on emission-reduction initiatives to reduce risk. Our management approach to this risk is monitoring utility usage by facility including engaging with our utilities to understand any upcoming rules or regulations and how they may apply to Tennant Company operations. To offset the potential risk related to utility usage, facility management teams work with Sustainable Enterprise to focus more effort on emissions reduction initiatives. These initiatives including energy supply projects, energy efficiency, and fleet fuel use efficiency. Benefits include reduced current operating costs as well as mitigation of this long-term, Emerging regulation risk type. For example, we achieved a total absolute emission reduction of 1,848.4 mT CO2e in 2020 from electricity- and fuel-reduction initiatives along with incremental renewable energy purchases. These initiatives are fully described in C4.3a & C4.3b. In addition to the carbon emission and risk reduction, annualized savings from projects completed in 2020 are more than $280,000.

Comment
No additional direct cost

Identifier
Risk 3

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

Risk type & Primary climate-related risk driver

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

Primary potential financial impact
Increased insurance claims liability

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

Company-specific description
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, as experienced in 2020 with the record-breaking year in the U.S. for billion-dollar weather and climate disasters. 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. These risks are quantified by insurance agency ratings and premiums. As examples, our facilities in Texas and Minnesota are exposed to greater tornado risk compared to our facilities 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 flood. With a global manufacturing model, we have production locations in Brazil, China, Italy, The Netherlands and the United States. Therefore, we face a possibility of extreme weather causing interruption at one or more manufacturing locations.

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)
25000000

Explanation of financial impact figure
Revenue impact could exceed $1,000,000 and range to $25,000,000 or more, depending on affected facility locations. Total replacement of our largest manufacturing facility (in Minneapolis, MN) would cost over $100 million. All material properties and physical assets are insured, but long recovery times could drive significant revenue impact.

Cost of response to risk
250000

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. A register of properties is maintained by the Tax and Treasury Department, as a checkpoint on current and appropriate types of insurance coverage. We also manage this risk by business continuity planning. In 2016, we identified the need for more robust business continuity plans. The plan for Minneapolis, MN, operations was put in place in 2017; the plan for Holland, MI, operations was put in place in 2019. Other location operations' plans are in development and will continue. The improved business continuity plans will address the initial response phase more robustly. Initial response and crisis management are known to be key 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.

Comment
The $250,000 is approximate direct cost - not including the total cost of property insurance. Annual property insurance cost is more than $1,000,000 for the most recent term. This includes a flood policy for our Louisville, KY, location.

Identifier
Risk 4

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
There are externalized, societal costs from the use of fossil fuels. Explicit carbon pricing (carbon tax) along with cap and trade have been implemented in some markets around the world to address these externalities. Tennant Company expects this trend to continue. Quantifying this risk, and updating the risk picture at least annually, is important work. With Tennant Company's complex and broad product line, we have many different direct material supplier groupings. These groupings include batteries, chargers, castings, engines, motors and drives, etc. We have a number of suppliers in most direct material groups, and many of these suppliers have some facilities in advanced economies like the EU, U.S., Japan, etc. Sole source creates risk and more diverse sourcing creates complexity, so a strategic supplier approach is required to achieve good balance. We consider our supply chain partnerships confidential and, in general, chose not to disclose details on specific suppliers. We have supplied this detailed, confidential data to Trucost for calculation of Scope 3 - Category 1, Purchased goods and services carbon emissions. The resulting financial impact ranges are

based on detailed confidential data including Tennant Company spend by supplier, supplier names and locations, and items purchased. The IEA has estimated the externalized cost of carbon as $63 / mT CO2 and $140 / mT CO2 for 2025 and 2040, respectively, in advanced economies. Source: "World Energy Model, Scenario analysis of future energy trends, Report — May 2021." This overall risk (Carbon pricing mechanisms - increased pricing of GHG emissions) has both direct operations (Company) and indirect (Supply chain) implications. Risk 3 captures the indirect (Supply chain) portion of the overall risk.

Time horizon
Long-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)
7756591.5

Potential financial impact figure – maximum (currency)
17236870

Explanation of financial impact figure
This impact estimate is based on 2020 total Scope 3 - Category 1, Purchased goods and services emissions of 123,120.5 mT CO2e and the IEA 2025 and 2040 carbon price estimates in advanced economies. $ 7,756,591.50 = 123,120.5 T CO2e * $63 $ 17,236,870.00 = 123,120.5 mT CO2e * $140 Note: Trucost calculated our Category 1 emissions as 123,120 mT CO2e, however, we have decided to use the more precise value in our calculation.

Cost of response to risk
0

Description of response and explanation of cost calculation
In 2018, Tennant Company created the Operations Center of Excellence group. One benefit of this organizational adjustment is improved risk management. This group is working to achieve global, consistent, disciplined execution in areas such as Global Supply, Global Operations Launch (new products), Global Continuous Improvement, Enterprise Business Improvement, and Global Quality. These centralized resources serve each of our manufacturing facilities. Tennant Company manages the Market Risk of increased cost of raw materials by communicating directly with our suppliers on a regular basis to understand how and why any of their costs may be increasing, including due to emerging climate-related regulations. The Global Supply teams work with other teams within the Operations Center of Excellence to mitigate raw material cost increases. The Global Supply group is 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 2020, as we expanded the engagement started in 2017. C12.1a includes additional detail on supplier engagement.

Comment
No additional direct cost

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?
Direct operations

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
Extreme weather events, such as tornadoes, hurricanes, typhoons and flooding, may increase awareness of climate change as a serious issue. In turn, this increased awareness may drive additional demand for Tennant Company products and solutions that offer customers the ability to reduce carbon emissions. Many of our company-specific products and solutions are proprietary and patented, making them differentiated and unique. These products include battery-powered scrubber-driers, both walk-behind and rider, with patented ec-H2O™ and IRIS® Asset Manager technologies offered on many types of products. These technologies can help customers avoid carbon emissions through efficiency. Customers continue to ask for much more detailed information in solicitations and Requests for Proposal as they drive toward their own carbon emission reduction goals and other environmental objectives. Providing environmental and performance advantaged products, with lower total life-cycle cost, is core to Tennant Company's value proposition. We have a broad line of eco-advantaged products (described in company-specific terms above), backed up by independent Life Cycle Assessment data. Tennant Company products are generally some of the highest performing, highest quality and lower total life-cycle cost in the industry. Tennant

Company sees this as an opportunity for increasing existing product demand, compared to our competitors, as well as higher margins through the development of new, differentiated solutions. NOTE: We cannot share specific information about products and technology that are in development. The Model R14 ReadySpace® example provided below is a product we have already introduced. The R14 ReadySpace® allows customers to reduce their carbon emissions, water use and waste.

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)
2050000

Potential financial impact figure – maximum (currency)
14350000

Explanation of financial impact figure
We expect to realize incremental sales ranging from $2,050,000 - $14,350,000 for one new, patented product or technology. As an example, we could introduce another eco-advantaged technology like ReadySpace® which allows customers to reduce their carbon emissions, water use and waste. The Model R14 ReadySpace product has a list price of $20,500. For a similar new product, between 100 units (volume low end) to 700 units (high end) could be sold, per year. This would yield $2,050,000 - $14,350,000 of incremental revenue.

Cost to realize opportunity
150000

Strategy to realize opportunity and explanation of cost calculation
The Senior Product Stewardship Engineer (SPSE) works directly with the Global Engineering teams during the design of new products. The SPSE works with the engineering teams 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. Not all projects end up setting sustainability targets, due to scope constraints, but the consideration is made for each. In 2020, the teams achieved and closed out nine sustainability targets and set one new target. The objective of these efforts is to steadily decrease the environmental impacts of our products. Over the last seven years 38 out of 39 targets were achieved at launch. We prioritize technology and product development, which includes carbon emissions avoidance and other environmental improvements in "Use of sold products" (our Scope 3 - Cat 11). Examples of eco-advantaged products we developed and commercialized include ec-H2O™ technology, ReadySpace®, and IRIS®. These products help our customers reduce their Scope 1+2 carbon emissions, water use, and waste.

Comment
Cost is approximate for additional resource. Total Research and Development investment in 2020 was $30.0 M and this is applied across a broad array of initiatives. Project level investment is confidential information.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
Tennant Company strives to create innovative, new products to meet customer needs. As battery technologies improve, our customers are becoming increasingly interested in low carbon power sources for the products they are sourcing. Our customer purchase trends are moving toward battery powered and electric machines; we have observed this in the past few years, and in 2020, 99.1% of units sold were battery powered or corded electric, while 0.9% were internal combustion (IC). We have introduced lithium battery options for products such as: V-LWU-13B, V-BP-6B, T1B, CS5, T600/T600e, T12, T16, T17, M17, and S16. We expect to continue to expand the offering as battery technology improves. Most recently, the product update from 6200 to S16 eliminated the potential to purchase an IC machine and now the S16 is only available with battery power source options. A potential future company-specific example might be a large, rider-integrated scrubber/sweeper with patented features like the Model M30; it is currently available only with an internal combustion engine. As non-fossil fuel technologies improve, the M30 could use an alternative power source option to replace its IC engine. This type of innovation could significantly reduce customer carbon emissions, if it is introduced to the market. IC products make up a material portion of our revenue/profit. Certain customer needs and conditions (runtime, cleaning productivity, debris/soil type, facility size, etc.) cannot currently be adequately addressed without an IC power supply. NOTE: We cannot share specific information about products and technology that are in development. The provided example is based on the Model M30, a product we have already introduced.

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)
6000000

Potential financial impact figure – maximum (currency)
15000000

Explanation of financial impact figure
For example, we introduced the S16 as an electric-only sweeper replacement to the 6200 only available with an IC engine in 2020. The new S16 sweeper includes patented features including wet battery power sources to replace the internal combustion engine of the 6200 model. This product enables our customers to reduce their carbon emissions. The current M30 product has a list price of $70,500. A similar size product with new innovations, including lower carbon emissions, could command an incremental higher price of $30,000 per machine. Between 200 and 500 units could be sold. This yields $6,000,000 to $15,000,000 of incremental revenue.

Cost to realize opportunity
0

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 along with considering micro and macro societal/market trends. Lithium-ion and other power source technologies have been implemented in other adjacent industries and installed on other types of capital equipment that our customers own. We are working with our customers to find ways to simplify their operations while lowering their cost to clean and reducing their emissions. Having direct Sales and Service personnel in the field, in both developing and developed economies, along with leveraging primary and secondary research helps this process immensely. Active and direct engagement with customers enables Tennant Company to develop industry-leading products and services as well as continuously developing innovative sustainable solutions for customer facilities. For example, new products launched in 2020 like lithium-ion powered versions of the S16 Rider Sweeper will likely result in greater revenue and profit for the company. Product innovation accompanied by current features like ec-H2O™ and ec-H2O NanoClean® provides customers the opportunity to reduce environmental impacts.

Comment
Total Research and Development investment in 2020 was $30.0 M and was applied across a broad array of initiatives. Project level costs and investment are 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 with our RECON business. Tennant has offered pre-owned equipment to its customers for well over a decade, but a renewed focus in 2014 resulted in the creation of specialized reconditioning teams near our manufacturing facility in Golden Valley, MN. We quickly experienced tremendous growth and success, as these pre-owned Tennant machines provide reliable cleaning power and quality at an affordable price. This achievement spurred the decision to cultivate additional reconditioning resources in: Toronto, Canada; Dallas, Texas; Zaragoza, Spain; Limeira, Brazil; and Aguascalientes, Mexico. The reconditioning process starts with a used machine finding its way back to Tennant, through a buy-back, leasing offering, or trade-in program. The machine is assessed and rated based on its condition, and will either be cleaned and repaired for resale, or dismantled for recycling. The machines deemed appropriate for reconditioning are thoroughly inspected and components with excessive wear are replaced. Commonly replaced components include batteries, motors, vacuum fans, and consumables such as brushes and squeegees. After the machine is back to a highly functional state, it goes through an exterior restoration where many machines emerge looking good as new. Comprehensive final quality checks are completed, resulting in a machine that is ready for resale. There is such high confidence in the quality of the refurbished equipment that most are backed by a Tennant factory warranty.

Time horizon
Short-term

Likelihood
Very 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)
150000000

Potential financial impact figure – maximum (currency)
300000000

Explanation of financial impact figure
The estimated financial impact is based off of the last seven years of focus on RECON and the potential growth in the market as most customers become aware of the product offering and purchase reconditioned machines over the next ten years.

Cost to realize opportunity
10000000

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 clear 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 made the decision 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 integrity of the brand. The RECON business now provides new customers the opportunity 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 estimated cost to realize the opportunity accounts for 2% of annual total operating costs.

Comment

C3. Business Strategy

C3.1

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

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, and we do not intend it to become a scheduled resolution item within the next two years	In August 2020 the Governance Committee (GC) added oversight to the company's programs, policies and practices relating to corporate responsibility and sustainability, including environmental, social and corporate governance (ESG) matters. These matters include climate-related issues. Their oversight could potentially include review and approval of a net zero target. The GC will determine if the topic will need full board approval.

C3.2

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

Yes, quantitative

C3.2a

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

Climate-related scenarios and models applied	Details
IEA Sustainable development scenario	Tennant Company uses the International Energy Agency (IEA) Sustainable Development Scenario CO2 prices to assess transition risks from the growing trend toward carbon market mechanisms. There are externalized, societal costs from the use of fossil fuels. Explicit carbon pricing (carbon tax) along with cap and trade have been implemented in some markets around the world to address these externalities. We expect this trend to continue. We chose this scenario because the IEA has a global view which matches our global business footprint. The inputs used were our current carbon emissions profile and the assumptions are described below. The IEA has estimated the externalized cost as $63 / mT CO2 and $140 / mT CO2 for 2025 and 2040, respectively, in advanced economies. Source: "World Energy Model, Scenario analysis of future energy trends, Report — May 2021." According to our defined time horizons this scenario is considered long-term (5-100 years), given the IEA's 2025 to 2040 framework. This time horizon is relevant to our business strategy as it aligns with our long-term 2030 targets approved by SBTi. This scenario has both direct operations (Company) and indirect (Supply chain and Customer) implications. Direct impact ranges from $1,632,443 to $3,627,652 in annual operational cost. This impact estimate is based on 2020 total Scope 1+2 GHG emissions (market-based) of 25,911.8 mT CO2e multiplied by the IEA carbon price estimates. This level of impact represents as much as 10.8% of 2020 net earnings (10.8% = $3,627,652 / $33,700,000). Note: Adding up Scope 1 & 2 emissions from our Trucost-assured values gives a round 25,911 mT CO2e (22,582 +3,329 mT CO2e). We have decided to use the more precise value in our calculation. We expect to continue reducing emissions each year, so this annual range of cost is representative for the 2025 to 2040 timeframe. Indirect impact ranges from $7,756,591.5 to $17,236,870.0 in operational cost. This impact estimate is based on 2020 total Scope 3, Category 1 emissions of 123,120.5 mT CO2e and IEA carbon price estimates. This level of impact represents as much as 51.1% of 2020 net earnings. (51.1% = $ 17,236,870 / $ 33,700,000). Note: Trucost calculated our Category 1 emissions as 123,120 mT CO2e. We have decided to use the more precise value in our calculation. We did not consider any changes from the reference scenario. The results are shared internally with the Senior Management Team. Scenario analysis results directly influence our objectives and strategy, with an increased leadership commitment to a long-term view, setting aggressive targets to reduce carbon emissions, and leading the transition to a low carbon future. The scenario analysis results also strengthen internal motivation for setting and achieving aggressive emission reduction targets. We expect the risk defined by this scenario will continue to increase. We began work in Q4 2020 establishing more ambitious science-based targets. The new targets, scheduled to be set in Q4 2021, will include recently acquired businesses (IPC, Gaomei). When our first SBTs were established and approved, with 2016 as base year, IPC and Gaomei were not part of the company. Target development will involve significant dialogue with all internal stakeholders and key decision makers. This is one example of how scenario analysis results directly affect our business objectives and strategy. We intend to employ broader scenario analysis in the future, including specific emission reduction pro forma assumption sets for our direct and relevant indirect categories.

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	One climate change opportunity Tennant Company has seen in products and services is increased demand for technologies that reduce emissions. One company-specific example is our proprietary, patented ec-H2O™ category of eco-advantaged products and services. This technology can be added to most of our scrubber-driers including models ranging in size from T300 (17-inch cleaning path) to M30 (64-inch cleaning path). Revenue from this technology has exceeded $1,560,000,000 revenue over a 13-year time period (2008-2020). Profit margins for this technology have been greater than company average margins. Next generation ec-H2O NanoClean® was added to some models in 2015. Sales of the ec-H2O product category for 2020 were about 62% of peak year sales. This type of sales vs. time curve is an indication of true, customer-valued innovation. Cumulative revenue ($1.56 B) over the technology lifetime is 55% greater than total 2020 company revenue ($1.001 B). We estimate our customers have avoided more than 114,000 mT CO2 emissions from all ec-H2O™ and ec-H2O NanoClean® equipped scrubber-driers sold to date, in comparison to packaged chemicals. Avoided emissions are the result of significant reductions of input materials, elimination of packaging, and elimination of emissions from transportation. In 2020 alone, we estimate our customers avoided more than 12,500 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 2020.
Supply chain and/or value chain	Yes	Customer use of Tennant Company products is the largest element of our 2020 Scopes 1, 2, & 3 value chain carbon emissions at more than 69%. Many customers have realized emission reduction by adapting eco-advantaged products like ec-H2O™ and ec-H2O NanoClean®, which are patented and unique to the Company. We estimate our customers have avoided more than 114,000 mT CO2e emissions from all ec-H2O™ and ec-H2O NanoClean® equipped scrubber-driers sold to date, in comparison to packaged chemicals. This estimate is based on independent LCAs performed by EcoForm and total unit sales. Avoided emissions are the result of significant reductions of input materials, elimination of packaging, and elimination of emissions from transportation. In 2020 alone, we estimate our customers avoided more than 12,500 mT CO2e emissions by using this group of products. This estimate is based on independent LCAs performed by EcoForm and the installed base operating in 2020.
Investment in R&D	Yes	Tennant Company has a history of developing innovative technologies to create a cleaner, safer, healthier world. The Company is committed to its innovation leadership position through fulfilling its goal to annually invest approximately 3% of annual sales to research and development. The Company's innovation efforts are focused on solving our customers' needs holistically 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 enablement, we are creating new growth avenues for the Company. These new avenues for growth go beyond cleaning equipment into business insights and service solutions. A climate-change-related opportunity we realized came from reduced product development cycle time and faster time to market for eco-advantaged products. For example, ec-H2O NanoClean® technology was accelerated to replace the original ec-H2O™ technology on certain product models. After Tennant introduced proprietary ec-H2O™ technology in 2008, advances in nanobubble technology led to ec-H2O NanoClean®. This technology delivers next-generation cleaning with nano-scale bubbles that break down dirt, food greases, and other challenging soils, then suspend them in the cleaning water where the squeegee can easily remove soil from the floor. ec-H2O NanoClean® cleans more soils in more applications than the original ec-H2O™. The impact of faster time to market for ec-H2O NanoClean® was sustained sales and profit for a technology already in market for over seven years. A typical product might reach peak sales in four to five years, then begin to decline. The ec-H2O product family reached peak sales in Year 8, also the same year next-generation NanoClean was introduced. The result has been sustained high sales and profit. In 2020 (Year 13), ec-H2O product family sales remain about 62% of peak sales, despite a 12% decline in total revenue for the company as a result of the global pandemic affecting our business.
Operations	Yes	Tennant Company has reduced operating costs for both manufacturing facilities and sales/service vehicle fleets by adapting energy- and fuel-saving technologies. Achieving these improvements results in both reduced current operating cost and mitigation of the longer-term climate-related risk. For example, we achieved 4,689.6 mT CO2e absolute emission reduction in 2020 to 21,165.7 mT CO2e, 18.1% less than 2019 emissions (25,855.3 mT CO2e). The reduction noted here is for our SBTi-approved target (Abs 1) reporting boundary, which does not include 2017 IPC or 2019 Gaomei acquisitions. One company-specific example is the installation of LED lights at our largest manufacturing facility in Minneapolis, MN, started in Q4 2020 and completed in Q1 2021. The estimated annual energy savings from the LED light install is 450,000 kWh, and the resulting Scope 2 emission reduction will be approximately 124 mT CO2e. Future cost savings and emission reductions are an important consideration in our financial planning.

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	Revenues - When deciding where to invest for revenue growth, Tennant Company considers eco-advantaged technologies and products, (including those which reduce carbon emissions) as favorable. For example, the category of eco-advantaged products and services known as ec-H2O™ and ec-H2O NanoClean® has exceeded $1.56 billion in revenue over a 13-year time period (2008-2020). Developing this solution was a strategic investment which we began in late 2005. The revenue impact has been significant. The revenue and unit sales shift away from internal combustion products for our portfolio continues. For 2020, internal combustion unit sales were 0.9% of total unit sales, down from 1.03% in 2019. The percentage of revenue is larger, since internal combustion models are disproportionately larger in size and more complex. The percentage of carbon emissions is also larger, at 18% of total Scope 3 - Category 11, Use of sold products emissions, but this is also down from 20% in 2019. Therefore, we will continue to focus on efficiency of all our products, including those that are internal-combustion powered. We expect the current trend toward electrification and other carbon emission-reducing solutions will continue. We consider trends, the current level of customer interest, and the competitive playing field when deciding where to invest. Anticipated revenue gains are an important consideration in both our financial planning and R&D investment decision-making process. Direct costs - Tennant Company's work to reduce carbon emissions has resulted in significant electricity, natural gas and vehicle fuel cost savings. Impacts include reduced current operating costs and mitigating the longer-term risk. We have reduced operating costs for both manufacturing facilities and sales/service vehicle fleets by adapting energy- and fuel-saving technologies. A company-specific example is the new Headquarters project. In mid-2020, we demolished an inefficient, existing building which we had no intention to occupy in the near term. We estimate this reduced our future annual carbon emissions by more than 500 mT CO2e. Annual cost savings on energy alone are estimated at more than $160,000. Anticipated direct cost savings are an important consideration in our financial planning. Capital Allocation & Expenditures - 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 is the installation of LED lights at our largest manufacturing facility in Minneapolis, MN, started in Q4 2020 and completed in Q1 2021. The estimated annual energy savings from the LED light install is 450,000 kWh, and the resulting Scope 2 emission reduction will be approximately 124 mT CO2e. Future cost savings and emission reductions are an important consideration in our financial planning.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?
Both absolute and intensity targets

C4.1a

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

Target reference number
Abs 1

Year target was set
2017

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

Scope(s) (or Scope 3 category)
Scope 1+2 (market-based)

Base year
2016

Covered emissions in base year (metric tons CO2e)
32480

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
99

Target year
2030

Targeted reduction from base year (%)
25

Covered emissions in target year (metric tons CO2e) [auto-calculated]
24360

Covered emissions in reporting year (metric tons CO2e)
21165.7

% of target achieved [auto-calculated]
139.338669950739

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 (including target coverage)
The 25% absolute reduction target (Abs 1) was approved by Science Based Targets initiative (SBTi) in early 2018. The reduction achieved through 2020, compared to base year 2016, was 34.8% ((32,480 - 21,165.7) / 32,480). As of 12/31/20, we have achieved this target, with 139.3% (34.8% / 25%) of progress toward the Abs 1 target in 28.6% (4 / 14 years) of time to target. This target includes at least 99% of the company's total, global gross Scope 1+2 emissions for base year 2016. What is not covered by this target are small facilities and facilities scheduled for demolition. We reassess our operational control boundary annually and did so in Q1 2021. We have a number of small facilities along with several unoccupied facilities scheduled for demolition. 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 2021 response. IPC Group (acquired in April 2017) emissions are reported as part of 2020 total Scope 1+2 emissions. IPC Group represents 14% of our 2020 market-based Scope 1+2 emissions, but IPC is not part of 2016 base year emissions for the Abs 1 target. Gaomei (acquired in January 2019) emissions are reported as part of 2020 total Scope 1+2 emissions. Gaomei represents 4% of our 2020 market-based Scope 1+2 emissions, but Gaomei is not part of 2016 base year emissions for the Abs 1 target. We intend to set new, more ambitious SBTs which also include both IPC and Gaomei. Work on these began in Q4 2020, and we aim to submit them to SBTi in Q4 2021.

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

Scope(s) (or Scope 3 category)
Scope 3: 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 (metric tons CO2e per unit of activity)
776

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure
95

Target year
2030

Targeted reduction from base year (%)
50

Intensity figure in target year (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 (metric tons CO2e per unit of activity)
567

% of target achieved [auto-calculated]
53.8659793814433

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 (including target coverage)
Int 1 covers Scope 3 - Category 11 (Cat 11), Use of sold products. The Int 1 target was approved by Science Based Targets initiative (SBTi) in early 2018. 2020 emissions intensity was 567 mT CO2 / $ M in equipment revenue (228,507 mT CO2 / $ 403 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 12/31/20 was 26.9% ((776 - 567) / 776)). Last year, 2016 base year emissions intensity was previously stated as 814 mT CO2 / $ M in equipment revenue (371,798 mT CO2 / $ 457 M). This changed when a battery-charging efficiency multiplier was updated to a more realistic value. As of 12/31/20, we had achieved 53.8% (26.9% / 50%) of progress toward the Int 1 target in 28.6% (4 / 14 years) of time to target. We expect to achieve a 36% absolute emissions reduction by 12/31/30 for the Int 1 target boundary, based on progress to date and updated pro forma estimate. If we identify errors when calculating Scope 3 - Cat 11, Use of sold products, we restate prior year emissions. In 2020, we corrected a few product category assumptions and an overestimated battery-charging efficiency multiplier in our calculations and therefore restate 2016, 2017, 2018, and 2019 Cat 11 emissions under the Int 1 target to 354,685; 332,277; 338,486; and 306,400 mT CO2, respectively. They were stated in 2019 as 371,798; 349,323; 356,464; and 322,184 mT CO2, respectively. This target includes at least 95% of the company's total, global gross Scope 3 - Cat 11 emissions in base year 2016. The target does not include intermediate products, floor coatings, reconditioned equipment, or third-party products outside of our design control. IPC Group (acquired in April 2017) emissions are reported as part of 2020 Scope 3 - Cat 11, Use of sold products emissions (Section C6.5). IPC Group represents 38.6% of our total 2020 Scope 3 - Cat 11 emissions, but IPC is not part of 2016 base year emissions for the Int 1 target. Gaomei (acquired in January 2019) emissions are reported as part of 2020 Scope 3 - Cat 11, Use of sold products emissions (Section C6.5). Gaomei represents 9.6% of our 2020 Scope 3 - Cat 11, but Gaomei is not part of 2016 base year emissions for the Int 1 target. We intend to set new, more ambitious SBTs which will also include both IPC and Gaomei. We aim to submit these to SBTi in Q4 2021.

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	16	
To be implemented*	9	773.4
Implementation commenced*	5	520
Implemented*	14	1848.4
Not to be implemented	4	

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Demolished unoccupied building, avoiding unnecessary electricity and gas use)

Estimated annual CO2e savings (metric tonnes CO2e)
504.9

Scope(s)
Scope 1
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
162108

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

Payback period
<1 year

Estimated lifetime of the initiative
>30 years

Comment
Demolishing an old, unused building at our new Headquarters site saved us an estimated 1,250,500 kWh of electricity and 30,000 therms of natural gas.

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
124.4

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
51865

Investment required (unit currency – as specified in C0.4)
306874

Payback period
4-10 years

Estimated lifetime of the initiative
16-20 years

Comment
This project installed LED lighting in the production area of our Minneapolis, MN, operations.

Initiative category & Initiative type

Low-carbon energy consumption	Wind

Estimated annual CO2e savings (metric tonnes CO2e)
130.3

Scope(s)
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)
569

Payback period
No payback

Estimated lifetime of the initiative
Ongoing

Comment
405 incremental MRETS Wind RECs for Minneapolis, MN, area facilities.

Initiative category & Initiative type

Low-carbon energy consumption	Wind

Estimated annual CO2e savings (metric tonnes CO2e)
704.3

Scope(s)
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)
5171

Payback period
No payback

Estimated lifetime of the initiative
Ongoing

Comment
5,450 incremental Italy Wind GOs for facilities in Italy, France, Germany, Spain, Belgium, and The Netherlands.

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)
37.1

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
8931

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

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
New compressor for facility in Louisville, Kentucky. Reported project as "Implemented" for RY2019. Compressor installed in last week of Dec. 2019 and went operational on 30 Dec. Made rough estimate of annual savings at 81,195 kWh, which was reported last year. Actual YOY savings are nearly 100% greater at 159,540 kWh, even when

adjusting for reduced 2020 activity (pandemic). Reporting an additional 78,345 kWh = 37.1 mT CO2e for 2020.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Facility consolidation)

Estimated annual CO2e savings (metric tonnes CO2e)
5.8

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2205

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

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Partitioned our sales and service facility to 50% of prior size in Japan.

Initiative category & Initiative type

Energy efficiency in production processes	Electrification

Estimated annual CO2e savings (metric tonnes CO2e)
4.3

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2721

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

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Replaced four internal combustion powered material handling trucks with electric at facility in Chicago, Illinois.

Initiative category & Initiative type

Energy efficiency in buildings	Insulation

Estimated annual CO2e savings (metric tonnes CO2e)
5.3

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
610

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

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
New roof for facility in Minneapolis, MN.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Facility consolidation)

Estimated annual CO2e savings (metric tonnes CO2e)
179.6

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
21800

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

Payback period
<1 year

Estimated lifetime of the initiative
>30 years

Comment
Consolidation of two manufacturing facilities into one in China.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Reduce leased warehouse space)

Estimated annual CO2e savings (metric tonnes CO2e)
5.6

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
4275

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

Payback period
<1 year

Estimated lifetime of the initiative
>30 years

Comment
Moved into a smaller warehouse space near our factory in Uden, The Netherlands.

Initiative category & Initiative type

Energy efficiency in production processes	Compressed air

Estimated annual CO2e savings (metric tonnes CO2e)
14.1

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2138

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

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Compressed air fitting upgrades and leak repair at facility in Uden, The Netherlands.

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
12.8

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1147

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 a plastic rotomolding machine in Holland, MI.

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)
115.6

Scope(s)
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)
48000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Improved HVAC controls allowing shutdown, plus variable frequency drives on multiple air units (MAUs and RTUs).

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
4.3

Scope(s)
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1803

Investment required (unit currency – as specified in C0.4)
11250

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
This project installed LED lighting in in an outside area of our Minneapolis, MN, operations.

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 computers, monitors, printers, etc.
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. Value streams include fabrication, assembly, etc. 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. Another representative CI example is the suggestion box for safety improvement ideas. Suggestions are evaluated and prioritized by the Minneapolis Safety Committee, which is led by the Environmental Health and Safety Manager. There are many different CI programs globally; each is tailored to 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/fuel reduction for building upgrades, new equipment and process investments was added to the Annual Operating Plan-Capital Planning template in 2014. The list of Capital projects is routed to the Director, Sustainable Enterprise during the planning process, who advocates for investment toward efficiency projects. Additional detail is required in Capital Expenditure Requests (CERs), via a template update made in 2015. 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 Director, Sustainable Enterprise 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 both recognition and monetary rewards for work toward energy/fuel efficiency and emissions reductions.
Internal finance mechanisms	The Annual Operating Plan process was revised so Capital Equipment projects which yield GHG emission reductions are distinctly identified. Beginning in Q4 2014, 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 currently use $80 / mT CO2e as uniform, current internal carbon price. We use the uniform price for capital investment decisions and revisit the price annually. The High-Level Commission on Carbon Prices estimated that carbon prices of at least US$40–80 / mT CO2 by 2020 and US$50–100 / mT CO2 by 2030 are required to cost-effectively reduce emissions in line with the temperature goals of the Paris Agreement, while the IEA Sustainable Development Scenario states that a carbon price ranging between US$75 / mT CO2 and US$100 / mT CO2 is needed to stay on track with a Paris-compatible trajectory. For business strategy analysis, we use evolutionary pricing per International Energy Agency (IEA) Sustainable Development Scenario. The IEA has estimated the externalized cost of carbon as $63 / mT CO2 and $140 / mT CO2 for 2025 and 2040, respectively, in advanced economies. Source: "World Energy Model, Scenario analysis of future energy trends, Report — May 2021."
Other	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. An independent assessment of our major facilities has been performed by Graphet Data Mining, to identify the most promising opportunities for energy reduction. We also regularly engage our business partners, including utilities (like Xcel Energy, CenterPoint Energy, Holland Board of Public Works, etc.) and fleet management companies. Through this engagement we identify 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 or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

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

Level of aggregation
Group of products

Description of product/Group of products
Detergent-free products including ec-H2O and ec-H2O NanoClean® scrubber-driers.

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Product Life Cycle Assessments (LCAs))

% revenue from low carbon product(s) in the reporting year
9.7

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
We estimate our customers have avoided more than 114,000 mT CO2 emissions from all ec-H2O and ec-H2O NanoClean® equipped scrubber-driers sold to date, in comparison to packaged chemicals. This estimate is based on independent LCAs performed by EcoForm and total unit sales. Avoided emissions are the result of significant reductions of input materials, elimination of packaging and elimination of emissions from transportation. In 2020 alone, we estimate our customers avoided more than 12,500 mT CO2 emissions by using this group of products. This estimate is based on independent LCAs performed by EcoForm and the installed base operating in 2020. These estimates are extremely conservative. They are based on LCAs for T3 & T300 size machines, which are 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 64% of the units sold with this detergent-free technology in 2020. The "by size of machine" distribution of units sold is similar in prior years. Those units remain part of the operating installed base.

Level of aggregation
Group of products

Description of product/Group of products
Reconditioned equipment (RECON)

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

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (Product Life Cycle Assessments)

% revenue from low carbon product(s) in the reporting year
2.25

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
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 below is based on findings of the screening LCA and total RECON unit sales for 2020. The estimate is conservative because most RECON machines sold are 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 830 mT CO2e emissions from all RECON machines sold in 2020, in comparison to purchasing new equipment.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1 2016

Base year end
December 31 2016

Base year emissions (metric tons CO2e)
23059

Comment
2016 is 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 which include these acquisitions and plan to submit them to SBTi in Q4 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 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 which include these acquisitions and plan to submit them to SBTi in Q4 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 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 which include these acquisitions and plan to submit them to SBTi in Q4 2021.

C5.2

(C5.2) 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)
22582.4

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
2020 reported emissions include all relevant IPC and Gaomei vehicle fleets and facilities. Note: Trucost assured our Scope 1 emissions at 22,582 mT CO2e, however, we have decided to state the more precise value here.

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
11251.6

Scope 2, market-based (if applicable)
3329.4

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
2020 reported emissions include all relevant IPC and Gaomei vehicle fleets and facilities. Note: Trucost assured our Scope 2 emissions at 11,252 mT CO2e for location-based, and 3,329 mT CO2e for market-based, however, we have decided to state the more precise values here.

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 2021. We have a number of small facilities along with several unoccupied facilities scheduled for demolition. All emissions combined from such facilities are less than 1% of total reported 2020 emissions. 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 Scope 1 or 2 restatements are included in our CDP Climate Change 2021 response.

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

Metric tonnes CO2e
123120.5

Emissions calculation methodology
In order to estimate emissions for purchased goods and services and capital goods, Trucost used Tennant's FY2020 supplier spend combined with supplier-disclosed emissions data from Trucost Environmental Register and the Trucost 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.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
3.05

Please explain
100% of the emissions are calculated using supplier spend data. 18.46% = (123,120.5 mT CO2e / 667,071 mT CO2e) Total Scope 1+2+3 emissions are 667,071 mT CO2e. Note: Trucost calculated our Purchased goods and services emissions as 123,120 mT CO2e, however, we have decided to state the more precise value here.

Capital goods

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
4119.9

Emissions calculation methodology
In order to estimate emissions for purchased goods and services and capital goods, Trucost used Tennant's FY2020 supplier spend combined with supplier-disclosed emissions data from Trucost Environmental Register and the Trucost 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.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0.01

Please explain
100% of the emissions are calculated using supplier spend data. The Capital goods category falls below the relevance threshold of 1% of total Scope 1+2+3 emissions. 0.62% = 4,119.9 mT CO2e / 667,071 mT CO2e Capital goods also falls below the 1% threshold of Scope 3 total emissions. 0.64% = 4,119.9 mT CO2e / 641,159 mT CO2e Note: Trucost calculated our Capital goods emissions as 4,120 mT CO2e, however, we have decided to state the more precise value here.

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

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
2792.8

Emissions calculation methodology
For fuel- and energy- related activities, emissions were calculated based on Tennant's actual electricity and fuel usage data. Energy consumption data was combined with Transmission & Distribution and Well To Tank Defra emission factors. Input data was provided for the countries that represent 95% of total employees as a minimum (emissions for less relevant countries were excluded from the analysis due to data availability).

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

Please explain
Working with S&P Global Trucost, we calculated emissions from the fuel- and energy-related activities category for 2020. We determined this category is not relevant (less than 1% of total GHG emissions), based on quantitative analysis of 2020 data. 0.42% = (2,792.8 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Fuel-and-energy-related activities emissions as 2,793 mT CO2e, however, we have decided to state the more precise value here.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
14629.2

Emissions calculation methodology
Trucost used its 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 mode of transport was available, and thus the average logistics transportation mode split for the US was used and sourced from the US Department of Transportation. Input data was provided for the countries that represent 95% of total employees as a minimum (emissions for less relevant countries were excluded from the analysis due to data availability).

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

Please explain
Emissions were calculated using Trucost's methodology using Tennant spend by region and mode of transit. 2.19% = (14,629.2 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Upstream transportation and distribution emissions as 14,629 mT CO2e, however, we have decided to state the more precise value here.

Waste generated in operations

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
65.3

Emissions calculation methodology
Trucost used its EEI-O model to calculate GHG emissions for waste generated in operations, based on Tennant's spend on waste treatment and disposal activities.

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

Please explain
Working with Trucost, part of S&P Global, we calculated emissions from the Waste generated in operations category for 2020. We determined this category is not relevant (less than 1% of total GHG emissions), based on quantitative analysis of 2020 data. 0.01% = (65.3 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Waste generated in operations emissions as 65 mT CO2e, however, we have decided to state the more precise value here.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
818.1

Emissions calculation methodology
Trucost used its 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).

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

Please explain
Working with Trucost, part of S&P Global, we calculated emissions from the Business Travel category for 2020. We determined this category is not relevant (less than 1% of total GHG emissions), based on quantitative analysis of 2020 data. Business travel declined in 2020 due to COVID-19 related travel restrictions. 0.12% = (818.1 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Business travel emissions as 818 mT CO2e, however, we have decided to state the more precise value here.

Employee commuting

Evaluation status
Relevant, calculated

Metric tonnes CO2e
7595.1

Emissions calculation methodology
Trucost estimated employee commuting emissions using Tennant's global employee headcount and country averages for commuting time, transportation mode and distance. For locations where country level data was not available, global averages were used.

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

Please explain
The Employee commuting category is slightly above the relevance threshold of 1% of total Scope 1+2+3 emissions. Employee commuting decreased in 2020 compared to 2019 due to remote work for some employees. Operations, Sales, and Service were considered essential and continued to travel to our facilities and/or customer sites. The Employee commuting category is slightly above the relevance threshold of 1% of total Scope 1+2+3 emissions. 1.14% = (7,595.1 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Employee commuting emissions as 7,595 mT CO2e, however, we have decided to state the more precise value here.

Upstream leased assets

Evaluation status
Relevant, calculated

Metric tonnes CO2e
23800.7

Emissions calculation methodology
Emissions from Tennant's leased assets cover building assets, vehicle assets and equipment assets. Using Tennant's area for leased floor space per country, Trucost applied average intensities for energy consumption from the US Energy Information Administration (EIA) to obtain the total energy consumption by energy source. Emissions were calculated using country-specific electricity grid factors from the International Energy Agency (IEA), and fuel emission factors from Defra. Using Tennant's fuel consumption for leased vehicles, Trucost applied Defra emission factors per type of fuel. Finally, using Tennant's spend on leased equipment, Trucost used its EEI-O model to calculate the associated emissions. Input data was provided for the countries that represent 95% of total employees as a minimum (emissions for less relevant countries were excluded from the analysis due to data availability).

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

Please explain
Tennant provided lease space and vehicle data to Trucost for global operations. 3.57% = (23,800.7 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our Upstream leased assets emissions as 23,801 mT CO2e, however, we have decided to state the more precise value here.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Given a change in methodological approach adopted in 2017 by our partner Trucost, part of S&P Global, Category 9 - Downstream transportation and distribution is not relevant.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Working with Trucost, part of 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

Metric tonnes CO2e
464012

Emissions calculation methodology
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. For cord and battery products, we use the electric grid emission factor for sold-to country. For internal combustion products, we use standard emission factors for each fuel type (gasoline, diesel, or LPG). 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/down based on relative product category complexity/simplicity. Our calculated 2020 emissions for Use of sold products have been verified by Trucost. Similar to 2019, in 2020, we expanded the Use of sold products reporting boundary to include IPC (acquired in April 2017) and Gaomei (acquired in January 2019). NOTE: Reported Use of sold products emissions: 1) Units are Metric tons CO2 (not Metric tons CO2e). When setting the Science-Based Target for Use of sold products, we determined N2O and CH4 contributors were not material for our types of products. 2) Includes third-party products. The Int 1 target (see C4.1b) boundary does not include third-party products as they are outside of our design control. RESTATEMENT NOTE: We corrected a few product category assumptions and an overestimated battery-charging efficiency multiplier in our calculations and, therefore, restate RY2019 Use of sold products emissions to 575,256 mT CO2 (from 579,929 mT CO2). Carrying the aforementioned fixes back to previous calculations, we are also restating RY 2018, 2017, and RY 2016 Use of sold product emissions to 350,721, 352,371 and 367,477 mT CO2, respectively. Emission quantities previously reported were 367,529 for RY 2018, 369,060 for RY 2017, and 384,743 for RY RY2016.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
In developing the product portfolio emissions calculator tool, we used sales/service machine life data along with hour-meter and IRIS® usage frequency data. This data comes directly (or indirectly) from the value chain partner - customers. Our reported Scope 3 - Category 11, Use of sold products emissions do not include intermediate products, floor coatings, or reconditioned equipment. 69.6% = (464,012 mT CO2e / 667,071 mT CO2e)

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
205.4

Emissions calculation methodology
The emissions associated with the end-of-life treatment of T300 family of products (T300, T300e, SS300) was estimated. The weight of T300 products sold in FY2020 and the weight of the associated packaging materials were provided by Tennant. Trucost 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 in the US and the rest globally.

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

Please explain
Working with Trucost, part of S&P Global, we calculated emissions from the End-of-life treatment of sold products category for 2020. We determined this category is not relevant (less than 1% of total GHG emissions), based on quantitative analysis of 2020 data. 0.03% = (205.4 mT CO2e / 667,071 mT CO2e) Note: Trucost calculated our End of life treatment of sold products emissions as 205 mT CO2e, however, we have decided to state the more precise value here.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Working with Trucost, part of 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

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

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

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Working with Trucost, part of 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

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Beyond Purchased goods and services, Upstream transportation, Employee commuting, and Upstream leased assets we have not identified any other upstream activities that are relevant.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

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

Please explain
Beyond Use of sold products we have not identified any other downstream activities that are relevant.

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 for Scope 3 - Category 11, Use of sold products. To establish this target and gain SBTi approval, we developed a product portfolio emissions calculator tool. 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. For cord and battery products, we use the electric grid emission factor for sold-to country. For internal combustion products, we use standard emission factors for each fuel type (gasoline, diesel, or LPG). 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 (LCA) data for a representative product (T300). The indirect emissions factor is adjusted up/down based on relative product category complexity/simplicity. Using this tool, we calculate and report the carbon emissions of each and every product we sell, if use-phase carbon emissions are material. We have also used this tool when responding to customer requests on the emissions of specific products and/or competitive tenders - when carbon emissions are considered. The frequency of customer requests for this level of product detail increases each year. 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. Quantification of impacts and relative impact measurements from this LCA have been the basis for significant action over the 2015-2020 time 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 a number of screening level (and beyond) Life-Cycle Assessments (LCAs) with business partners EcoForm and PE International (now Sphera). Product and technology LCAs completed include ec-H2O, ec-H2O NanoClean®, water recycling system concepts, T300, and reconditioned equipment. If and 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 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 knowledge gained from this LCA in a number of ways. This includes reorganizing the Sustainable Enterprise function in 2016-2017, reallocating resources for dedicated staff to focus on products, and determining where to focus the efforts of the Senior Product Stewardship Engineer.

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

25.9

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

25911.8

Metric denominator

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

Metric denominator: Unit total

1001

Scope 2 figure used

Market-based

% change from previous year

11.6

Direction of change

Decreased

Reason for change

Reasons for the 11.6% Intensity decrease are efficiency projects completed and increased renewable energy purchases, as described in sections C4.3 and C8.2e. -11.6% = (25.9 - 29.3) / 29.3 29.3 mT CO2e / $M was our stated intensity metric for 2019. Note: Adding up Scope 1 & 2 emissions from our Trucost-assured values gives a round 25,911 mT CO2e (22,582 +3,329 mT CO2e) , however, we have decided to state the more precise value here.

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	22504.4	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	6.7	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	71.3	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	461.2
Belgium	97.8
Brazil	347.3
Canada	724.2
China	190
France	821
Germany	1392.4
India	0.7
Italy	1537.3
Japan	47.5
Mexico	286.6
Netherlands	986.4
Norway	85.2
Portugal	153.4
Spain	567.7
United Kingdom of Great Britain and Northern Ireland	1229.9
United States of America	13653.8

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	15011.9
EMEA - Europe, Middle East, and Africa	6871.1
APAC - Asia Pacific	699.4

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Australia	185.3	185.3	233.7	0
Belgium	13.5	0	79.7	79.7
Brazil	126.4	126.4	242.9	0
Canada	2.1	2.1	70.3	0
China	1460.8	1460.8	1627	0
France	14.8	0	271.4	271.4
Germany	62.5	0	183.4	183.4
India	39.2	39.2	40.7	0
Italy	1322.9	0	5617.4	5617.4
Japan	37.2	37.2	66.7	0
Mexico	18.5	18.5	36.4	0
Netherlands	643	109.8	1637.9	1435.5
Norway	5.9	173.3	437.3	0
Portugal	4.3	4.4	17.3	0
Spain	34.1	0	162.6	162.6
United Kingdom of Great Britain and Northern Ireland	45.8	61	160.3	0
United States of America	7235.3	1111.4	14481.6	12612

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	7382.3	1258.4
EMEA - Europe, Middle East, and Africa	2146.8	348.5
APAC - Asia Pacific	1722.5	1722.5

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?

Decreased

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	834.6	Decreased	2.5	-2.5% = -834.6 / 33,309 2019 market-based Scope 1+2 emissions as reported: 33,309 mT CO2e. In 2020, we purchased 5,450 incremental Italy Wind GOs and 500 incremental MRETS Wind RECs. We increased our purchase of Italy Wind GOs in 2020 in order to cover the EMEA electricity consumed at our facilities across Italy, France, Germany, Spain, Belgium, and most of The Netherlands. We purchased 500 additional MRETS wind RECs of Minnesota origin, but used only 405 in 2020 (because of reduced electricity usage as a result of the pandemic), and we will carry over 95 RECs to 2021. We applied these 405 additional RECs in 2020 to electricity consumed at our facilities located in the greater Minneapolis, MN, area. The total Scope 1+2 emissions reduction realized from the purchase of these additional RECs and GOs is 834.6 mT CO2e.
Other emissions reduction activities	1013.8	Decreased	3	-3.0% = -1,013.8 / 33,309 We completed implementation of 12 emission reduction initiative projects in 2020. The total net emission-reduction achieved was 1,013.8 mT CO2e. This count of 12 does not include the two renewable energy-based projects. These projects are described above in the "Change in renewable energy consumption" section. In Sections C4.3b, these 12 projects are described in full detail.
Divestment	0	No change	0	Not applicable for 2020
Acquisitions	0	No change	0	Not applicable for 2020
Mergers	0	No change	0	Not applicable for 2020
Change in output	5548.8	Decreased	16.7	The remaining gap in our emissions reduction is 5,548.8 mT CO2e. This is primarily due to a reduction in sales and sales & service-related activities as a result of the global pandemic. We also had a reduction in production-related activities. -5,548.8 = (33,309 – 834.6 – 1,013.8) - 25911.8 -16.7% = -5,548.8 / 33,309 A similar reduction can also be seen in our fuel use from 2019 to 2020 (C8.2c), where our total normalized fuel use dropped from 116,542.1 MWh in 2019 to 96,646.2 MWh in 2020. This is a 17.1% reduction. -17.1% = (96,646.2-116,542.1) / 116,542.1
Change in methodology	0	No change	0	Not applicable for 2020
Change in boundary	0	No change	0	Not applicable for 2020
Change in physical operating conditions	0	No change	0	Not applicable for 2020
Unidentified	0	No change	0	Not applicable for 2020
Other	0	No change	0	Not applicable for 2020

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?

Decreased

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

Acquisitions

Change in emissions in this category (metric tons CO2e)

14670.5

% change in emissions in this category

14

Please explain

2020 was the first year that we incorporated our recent acquisitions IPC (2017) and Gaomei (2019) into the value Chain calculations. This resulted in an increase spend register and therefore an increase in Cat 1 emissions. 2019 Purchased goods and services emissions were 108,450.0 mT CO2e. 14% = 100 * (123,120.5 mT CO2e - 108,450.0 mT CO2e) / 108,450.0 mT CO2e Note: Trucost calculated our Category 1 emissions as 123,120 mT CO2e, however, we have decided to use the more precise value in our calculation.

Capital goods

Direction of change
Increased

Primary reason for change
Other, please specify (Construction of new Headquarters and Acquisitions)

Change in emissions in this category (metric tons CO2e)
1655.7

% change in emissions in this category
67

Please explain
Increased due to large construction project that occurred at our corporate headquarters. Construction industry has higher emissions compared to our normal capital spend. 2020 was the first year that we incorporated our recent acquisitions IPC (2017) and Gaomei (2019) into the value Chain calculations. This resulted in an increase spend register and therefore an increase in Cat 2 emissions. 2019 Capital Goods emissions were 2,464.2 mT CO2e. 67% = 100 * (4,119.9 mT CO2e - 2,464.2 mT CO2e) / 2,464.2 mT CO2e Note: Trucost calculated our Capital goods emissions as 4,120 mT CO2e, however, we have decided to use the more precise value in our calculation.

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

Direction of change
First year of reporting this category

Primary reason for change
<Not Applicable>

Change in emissions in this category (metric tons CO2e)
<Not Applicable>

% change in emissions in this category
<Not Applicable>

Please explain
<Not Applicable>

Upstream transportation and distribution

Direction of change
Decreased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
5865.1

% change in emissions in this category
29

Please explain
Pandemic-related business disruption occurred across the global business units, which included reducing amount of materials and products shipped. 2019 Upstream transportation emissions were 20,494.3 mT CO2e. -29% = 100 * (14,629.2 mT CO2e - 20,494.3 mT CO2e) / 20,494.3 mT CO2e Note: Trucost calculated our Upstream transportation and distribution emissions as 14,629 mT CO2e, however, we have decided to use the more precise value in our calculation.

Waste generated in operations

Direction of change
First year of reporting this category

Primary reason for change
<Not Applicable>

Change in emissions in this category (metric tons CO2e)
<Not Applicable>

% change in emissions in this category
<Not Applicable>

Please explain
<Not Applicable>

Business travel

Direction of change
Increased

Primary reason for change
Acquisitions

Change in emissions in this category (metric tons CO2e)
296.7

% change in emissions in this category
57

Please explain
2020 was the first year we included Acquisitions of IPC (2017) and Gaomei (2019) into the full value chain calculations done by Trucost. Additionally, detail was provided to Trucost on mode of transport (for example, rail and air transport). This allowed Trucost to apply enhanced emission factors associated with the mode of transport for each spend item. This detail was not previously provided, therefore, 2020 results are considered more accurate as they are based on more granular data. 2019 Business Travel emissions were 521.4 mT CO2e. 57% = 100 * (818.1 mT CO2e – 521.4 mT CO2e) / 521.4 mT CO2e Note: Trucost calculated our Business travel emissions as 818 mT CO2e, however, we have decided to use the more precise value in our calculation.

Employee commuting

Direction of change
Decreased

Primary reason for change
Other, please specify (Remote work caused by COVID-19 safety precautions)

Change in emissions in this category (metric tons CO2e)
424

% change in emissions in this category
5

Please explain
Approximately 25% of our employees worked remotely for approximately 75% of 2020 due to COVID-19 social distancing safety precautions. 2019 Employee commuting emissions were 8,019.1 mT CO2e. -5% = 100 * (7,595.1 mT CO2e - 8,019.1 mT CO2e) / 8,019.1 mT CO2e Note: Trucost calculated our Employee commuting emissions as 7,595 mT CO2e, however, we have decided to use the more precise value in our calculation.

Upstream leased assets

Direction of change
First year of reporting this category

Primary reason for change
<Not Applicable>

Change in emissions in this category (metric tons CO2e)
<Not Applicable>

% change in emissions in this category
<Not Applicable>

Please explain
<Not Applicable>

Use of sold products

Direction of change
Decreased

Primary reason for change
Change in output

Change in emissions in this category (metric tons CO2e)
111244

% change in emissions in this category
19.3

Please explain
Cat 11 emissions decreased 19.3% primarily due to equipment revenue decrease of 15.1% (pandemic-related business disruption). -19.3% = 100 * (464,012 mT CO2e - 575,256 mT CO2e) / 575,256 mT CO2e RESTATEMENT: 2019 Use of sold products emissions were previously reported as 579,929 mT CO2. Since our 2019 CDP response, we have corrected a few product category assumptions and an overestimated battery-charging efficiency multiplier in our calculations and, therefore, restate RY2019 Use of sold products emissions to 575,256 mT CO2.

End-of-life treatment of sold products

Direction of change
First year of reporting this category

Primary reason for change
<Not Applicable>

Change in emissions in this category (metric tons CO2e)
<Not Applicable>

% change in emissions in this category
<Not Applicable>

Please explain
<Not Applicable>

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)	7.4	96638.8	96646.2
Consumption of purchased or acquired electricity	<Not Applicable>	20362	5004.7	25366.7
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>	20369.4	101643.5	122012.9

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.

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
40937.6

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>

Emission factor
53.06

Unit
kg CO2e per million Btu

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf

Comment
Fuel used for manufacturing processes and facility heating.

Fuels (excluding feedstocks)
Diesel

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
19383.67

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>

Emission factor
10.21

Unit
kg CO2e per gallon

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf

Comment
Fuel used for Sales and Service vehicle fleets.

Fuels (excluding feedstocks)
Motor Gasoline

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
35977.11

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>

Emission factor
8.78

Unit
kg CO2e per gallon

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf

Comment
Fuel used for Sales and Service vehicle fleets.

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
234.23

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>

Emission factor
5.68

Unit
kg CO2e per gallon

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf

Comment
Fuel used for material handling equipment and manufacturing process.

Fuels (excluding feedstocks)
Propane Liquid

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
106.19

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>

Emission factor
5.72

Unit
kg CO2e per gallon

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf

Comment
Fuel used for material handling equipment and manufacturing process.

Fuels (excluding feedstocks)

Bioethanol

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
7.43

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>

Emission factor
6.21

Unit
kg CO2e per gallon

Emissions factor source
https://www.theclimateregistry.org/wp-content/uploads/2020/04/The-Climate-Registry-2020-Default-Emission-Factor-Document.pdf NOTE: Emission factor used is for E85: 15% gasoline, 85% ethanol.

Comment
Fuel used for Sales and Service vehicle fleets.

C8.2e

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

Sourcing method
Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Wind

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

MWh consumed accounted for at a zero emission factor
7750

Comment
These were spread over three separate transactions: 142 Wind GOs Retired via certiq Registry Domain: Italy Production device ID: 803255132000013782 Certificate IDs: – 80325513200000000000619433699 - 80325513200000000000619433840 Vintage: 2020 For Tennant Company Operations in Europe 4,802 Wind GOs Retired via certiq Registry Domain: Italy Production device ID: 803255132000012211 Certificate IDs: – 80325513200000000000626052387 - 80325513200000000000626057188 Vintage: 2020 For Tennant Company Operations in Europe 2,806 Wind GOs Retired via certiq Registry Domain: Italy Production device ID: 803255132000015649 Certificate IDs: – 80325513200000000000626070192 - 80325513200000000000626072997 Vintage: 2020 For Tennant Company Operations in Europe

Sourcing method
Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
1900

Comment
2,600 Wind RECs purchased in 2020 1,900 Retired via ERCOT Registry (700 were unused and will be carried over into 2021. We had an unanticipated reduction in electricity use due to the pandemic.) Facility ID: 00169 Certificate Serial Numbers: 00019246 - 00021845 Vintage: 2020 For Tennant Company Operations in Grand Prairie, Texas; Louisville, Kentucky; and Chicago, Illinois.

Sourcing method
Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
7

Comment
7 Wind RECs (unused remaining portion from a 2019 REC purchase) Retired via ERCOT Registry Facility ID: 01362 Certificate Serial Numbers: 00108424 - 00110916 Vintage: 2019 These are 7 leftover RECs from 2019 purchase, used for Tennant Company Operations in Holland, MI, USA

Sourcing method
Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
7450

Comment
7,450 Moraine Wind RECs Retired via M-RETS Registry Project Name: Moraine Wind, Location: MN Project ID: M392 Vintage: 2020 Certificate Serial Numbers: 392-MN-01-2020-BAF1970F - 2698 to 10147 For Tennant Company Operations in Minnesota, USA

Sourcing method
Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

Low-carbon technology type
Wind

Country/area of consumption of low-carbon electricity, heat, steam or cooling
United States of America

MWh consumed accounted for at a zero emission factor
3255

Comment
3,350 Wind RECs purchased in 2020 3,255 Retired via M-RETS Registry member, IGS Energy (95 were unused and will be carried over into 2021. We had an unanticipated reduction in electricity use due to the pandemic.) Project Name: Red Pine Wind Project, Location: MN Project ID: M1477, Location: MN Certificate Serial Number Range: 1477-MN-06-2020-25AA11CC - 50675 to 54024 Vintage: 2020 For Tennant Operations in Minnesota, USA

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 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.” In order to track progress toward this target, we quantify the carbon emissions of sold products. We also assess and review the energy consuming components, subsystems, and actions of our equipment very closely. 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 sold of 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
54.5

Efficiency figure in the reporting year
851

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) Units are Metric tons CO2 (not Metric tons CO2e). When setting the Science-Based Target for Category 11, we determined N2O and CH4 contributors were not material for our types of products. Furthermore, not all country emission factors specifically stated CO2e, so we could not be confident reporting CO2e. 2) Total emissions include third-party products. The Int 1 target (see C4.1b) boundary does not include third-party products as they are outside of 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 do share such information with customers on request and also 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
83.4

Metric numerator
Renewable electricity attributes purchased in MWh

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

% change from previous year
155.8

Direction of change
Increased

Please explain
We report the % of renewable electricity metric in our annual CSR. The most recently published CSR is attached to this CDP response at C12.4. We purchased 21,150 MWh of renewable electricity attributes, either GOs or RECs, in 2020. We purchased 25,366.742 MWh total electricity in 2020. 83.4% = 21,150 / 25,366.742 The percentage of renewable electricity purchased increased from 53.5% in 2019 to 83.4% in 2020. 155.8% = 83.4% / 53.5%

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 through fulfilling its goal to annually invest approximately 3% of annual sales to research and development. The Company's innovation efforts are focused on solving our customers' needs holistically 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 enablement, 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 Senior Product Stewardship Engineer 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 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)
30.1

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. Our S16 rider sweeper, launched in July 2020, is available only as battery-powered, with optional lithium-ion batteries. Its predecessor, the 6200 rider sweeper, was previously offered with a diesel engine for the European market. This version was eliminated when the S16 was introduced, reducing overall emissions for both Tennant Company and customers who switch from the 6200D to an electric S16. Another focus area in R&D has been in cleaning-process efficiency through our AMR (autonomous mobile robot) program. Moving from human- to robot-operated often leads to improved efficiency, and when the task is completed in less time, the energy use and carbon emissions are also reduced. Tennant launched the T380AMR in 2020, the second robotic scrubber in our AMR line which helps our customers clean more efficiently and effectively. These robots execute tasks with reliable consistency, as they repeat the cleaning path once stored into memory. They do not get distracted or stray from their program and accidentally go back over an already-cleaned portion of the floor like a human operator might. An example from our recently acquired Gaomei Cleaning, in Hefei, China, is the continued investment in the Gaomei Smarter Cleaning Management System. This connected platform collects and analyzes machine data in real time to streamline the cleaning process and improve efficiencies throughout machine operation, labor, maintenance activities, and fleet management. In addition, failure faults and troubleshooting solutions are instantly pushed to the customer's device to reduce machine downtime and unnecessary waste. Similar to the AMR benefits, improved efficiencies can be directly tied to environmental footprint reduction, as fewer overall activities performed means less energy used and emissions created. The average % of total R&D investment over the last three years is an estimate. We do not disclose specific information about our technology and/or product development projects or investments.

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
Tennant Company RY2020 Assurance_Statement_Final.pdf

Page/ section reference
GHG Scope 1 (2020) -- on Page 1 of attachment: "Tennant Company RY2020 Assurance_Statement_Final" Verified by Trucost ESG Analysis, S&P Global

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
Tennant Company RY2020 Assurance_Statement_Final.pdf

Page/ section reference
GHG Scope 2 Location-based (2020) -- on Page 1 of attachment: "Tennant Company RY2020 Assurance_Statement_Final" Verified by Trucost ESG Analysis, S&P Global

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
Tennant Company RY2020 Assurance_Statement_Final.pdf

Page/ section reference
GHG Scope 2 Market-based (2020) -- on Page 1 of attachment: "Tennant Company RY2020 Assurance_Statement_Final" Verified by Trucost ESG Analysis, S&P Global

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
Tennant Company RY2020 Assurance_Statement_Final.pdf

Page/section reference
GHG Scope 3 Use of sold products (2020) -- on Page 1 of attachment: "Tennant Company RY2020 Assurance_Statement_Final" Verified by Trucost ESG Analysis, S&P Global 72.37% = 464,012 / 641,159 641,159 mT CO2e is total Scope 3 for RY2020 - all categories Therefore, Use of sold products emissions are 72.37% of our total Scope 3 emissions.

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
72.37

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 v3 (2020) Type 2 moderate-level assurance	GHG Scope 3 Use of sold products (2020) -- on Page 1 of attachment: "Tennant Company RY2020 Assurance_Statement_Final" Scope 3 Use of sold products (Category 11) is by far the largest portion of our value chain carbon footprint. Prior year (2019) Use of sold products emissions were verified as 575,256 mT CO2 by Trucost ESG Analysis, S&P Global. See attachment: "Tennant Company RY2020 Assurance_Statement_Final" Reporting year (2020) emissions were also verified by Trucost as 464,012 mT CO2. See attachment: "Tennant Company RY2020 Assurance_Statement_Final" The year-on-year change in Use of sold products emissions is calculated using these verified 2020 and 2019 figures. 464,012 – 575,256 = -111,244 mT CO2 The resulting 111,244 mT CO2 year-on-year absolute change is a 19.3% year-on-year decrease. This reduction is primarily due to a decrease in sales and sales activities from the COVID-19 pandemic. RESTATEMENT NOTE: 2019 Use of sold products emissions were previously reported as 579,929 mT CO2. Since our 2019 CDP response, we discovered several products were mis-categorized. Therefore, we have restated 2019 Use of sold products. Tennant Company RY2020 Assurance_Statement_Final.pdf

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 2020

Period end date
December 31 2020

% of total Scope 1 emissions covered by tax
0.14

Total cost of tax paid
1026

Comment
The UK Climate Change Levy (CCL) is one example of a carbon tax applied to our business. The CCL is applied to natural gas used at our Northampton and Bolton, UK, locations. In April 2020, the CCL was increased from 0.339 to 0.406 p/kWh, a 19.8% increase. In 2020, the additional cost for natural gas due to CCL was 738 GBP * ($1.39 / GBP) = $1,026.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being 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 separately track carbon taxes paid in each country where we operate. These taxes are not always easy to identify separately and some are passed on to end users indirectly.

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 Northampton and Bolton, UK, locations. In 2020, the additional cost for natural gas due to CCL was 738GBP * ($1.39 / GBP) = $1,026. This cost was quantified by examining invoice detail, including the CCL rate increase from 0.339p/kWh to 0.406p/kWh in April 2020.

Emissions Trading Schemes (ETS) do not apply to any portion of our global business today but could potentially apply in the next 2-5 years. We monitor ETS and other regulatory developments in the areas we operate, both to ensure compliance and minimize risk.

Our highest priority strategies are efficiency improvement and low-carbon energy purchasing, which result in reduced carbon emissions.

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 use an internal price of carbon to quantify risk and understand full potential impacts of our energy use changes. Risk application is explained in "Impact & implication" below. We qualitatively and quantitatively consider carbon price in long-term capital investments. This aids decision making, especially for larger facility projects. In 2020 we continued investing in equipment to lower our energy use. Three 2020 examples are LED lighting in Minneapolis, MN, upgrades to a compressed air system in Uden, The Netherlands, and a high-efficiency compressor in Louisville, KY. Estimated annual savings are 550,000 kWh and over $60,000. In Tables C3.3 and C3.4 we 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 currently use $80 / mT CO2e as uniform, current internal carbon price, as it is on the high end of the current climate science guidance. From the State and Trends of Carbon Pricing 2021, May 2021, World Bank Group: "[Carbon pricing] must be sufficiently AMBITIOUS. Experts say prices of USD 40-80/tCO2e are needed to meet the 2°C goal." And from their 2019 report, prices of at least USD 50-100 / mT CO2 are required by 2030. However, "as part of the broader package of legislation under the European Green Deal, there will be a revision of the EU ETS (emissions trading system), with a proposal expected in June 2021 to align it with the more ambitious 2030 target." A full value chain assessment has been completed for each of the past seven years, 2014-2020. We will publish "Tennant Value Chain Footprint - Financial Year 2020" shortly. The report will be available to the public here: https://www.tennantco.com/en_us/about-us/corporate-citizenship/sustainability.html We use uniform pricing for capital investment decisions and revisit the price annually. For business strategy analysis, we use evolutionary pricing per International Energy Agency (IEA) Sustainable Development Scenario.

Type of internal carbon price
Shadow price

Impact & implication
We expect carbon taxes to be used more broadly and subsidies for fossil fuels to be eliminated over time. We use an internal carbon price to assess short- and long-term economic risks from climate change driven policy. In 2016, we assessed the potential impact of eliminating pre-tax fossil fuel subsidies, combined with new carbon taxes, to address externalities. That analysis quantified potential FY2014 impact as more than $100 M. The assessment was at the enterprise level and covered our full value chain. We broke potential impacts down to Geographic Business Units and Functional Groups. The information was communicated to the Global Leadership Team to increase awareness and provide motivation to pursue both energy/fuel use reductions and renewable energy. The Global Leadership Team includes all leaders at the Director level and above. For FY2020, we estimate the total costs of our Scope 1, 2, and 3 GHG emissions at more than $53 million. That amount is greater than 5% of our 2020 Revenue and more than 158% of our Net Earnings. 2020 Revenue = $1,001,000,000 2020 Net Earnings = $33,700,000 Total Scope 1 + 2 + 3 emissions = 667,071 = 22,582.4 + 3,329.4 + 123,120.5 (Category 1) + 4,119.9 (Cat 2) + 2,792.8 (Cat 3) + 14,629.2 (Cat 4) + 65.3 (Cat 5) + 818.1 (Cat 6) + 7,595.1 (Cat 7) + 23,800.7 (Cat 8) + 464,012 (Cat 11) + 205.4 (Cat 12) $ 53,365,680 = 667,071 mT CO2e x $80 / mT CO2e Note: Trucost has calculated our emissions breakdowns to round numbers, but we have decided to use the more precise values in our calculations. This potential financial impact significantly exceeds $5,000,000, our definition of "substantive" for reporting year 2020. In addition to quantifying/managing risks to Tennant Company, we consider how new technologies and products can reduce our customer's emissions and related risks. We use Life Cycle Assessment to quantify environmental impacts - including carbon emissions. Potential customer cost 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

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
0.25

% total procurement spend (direct and indirect)
5

% of supplier-related Scope 3 emissions as reported in C6.5
1.4

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 to make improvements on the emissions from our products. This Direct material group was selected for its high potential to reduce the use-phase emissions of our equipment based on Life Cycle Assessments completed in 2015 and 2018. This engagement tactic is still in the pilot phase, and we plan to use the learned outcomes to guide future work with other suppliers and material groups to ultimately expand the impacts.

Impact of engagement, including measures of success
This Direct material supplier group offers the largest long-term opportunity for both Categories 1 and 11 emission reductions. The components provided by this supplier group are major energy consumers in a broad range of our products. The particular range of products represents about 72% of our total 2020 Scope 3 - Category 11, Use of sold products emissions and 69% of all 2020 Scope (1+2+3) emissions. We work directly with a select group of strategic suppliers to identify innovations that may lead to emissions reductions through efficiency, communicating about potential opportunities at supplier meetings, through email, or supplier site visits. Depending on the material group and the supplier we may have a different supplier engagement strategy. Our intent is to work collaboratively with our suppliers to find efficiency gains that can be applied across multiple Tennant products. Marked progress was being made in the first few months of 2020, but halted as the pandemic began. Due to COVID-related supply chain disruptions, we were not able to visit any suppliers or have any strategic innovation discussions as all parties were focusing on responding to the COVID-19 Pandemic. Therefore, our 2020 engagement activities were limited to emails only. As COVID-related supply chain disruptions are resolved, we plan to continue discussions with our suppliers with a renewed focus on process and the circular economy.

Comment

C12.1b

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

Type of engagement
Education/information sharing

Details of engagement
Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
72

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
We communicate product and technology environmental advantages broadly, through all sales channels, and in a variety of ways. We choose to engage with all customers since Use of sold products (Scope 3 - Category 11) is the largest portion of our value chain emissions. We feel it is important to raise customer awareness around how they can reduce all environmental impacts, including carbon emissions. Our Sales and Service teams are our primary method for engaging with and educating customers; they are the first ones to answer sustainability-focused questions and or receive sustainability, or climate-related questionnaires or tenders that are then passed to our Sustainable Enterprise team to assist with the response. We update our Environmental Stewardship and LEED sales collateral regularly, to ensure they are up to date with new and current products. This is available online on our Sustainability Webpage: https://www.tennantco.com/en_us/about-us/corporate-citizenship/sustainability.html. We recently added the “Lithium-ion Battery Recycling Program” guide to relevant product pages. https://www.tennantco.com/en_us/1/machines/scrubbers/product.cs5.micro-scrubber.1251580.html. The information is also available through our sales tools used by our Sales teams. We alert the sales teams via a weekly email to inform them of details on newly released products and updates to any sales collateral. We also have educational opportunities for the sales teams at the annual sales meetings. We use that opportunity to educate the sales team on sustainability features of the products so they can educate our customers. This type of engagement helps customers understand how to reduce their Scope 1 + 2 emissions by providing specific and concrete actions which are proven to work. Outcomes from this engagement also help reduce our 464,012 mT CO2 of Scope 3 - Category 11, Use of sold products emissions, which is more than 72% of total Scope 3 emissions (C10.1c).

Impact of engagement, including measures of success
Tennant Company's detergent-free ec-H2O technologies have been very successful in the market. These technologies and products help customers achieve significant environmental footprint reduction, including avoided carbon emissions. We have used 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 strong revenue and profit contributions to our business. Since the introduction of ec-H2O in 2008, our customers' cumulative carbon emission reduction is more than 114,000 mT CO2. Total ec-H2O machine revenue exceeds $1.56 B in the 13 years since introduction. In 2020 alone, customer-avoided emissions were more than 12,500 mT CO2. Total sales for the ec-H2O product family were more than 9% of 2020 Total Revenue.

C12.3

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

C12.3b

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

C12.3c

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

Trade association
EUnited - The European Engineering Industries Association. EUnited provides a channel for companies to communicate with the European Institutions and partner organisations and to articulate the role of equipment suppliers in technical standards development, policy formulation, trade issues and legislation. Within this single European trade association, member companies are organised in four sectors which are Cleaning, Municipal Equipment, Robotics and Vehicle Cleaning. EUnited Cleaning focuses on the industry sector producing cleaning systems for commercial and industrial use. A Tennant Company employee is on the EUnited Cleaning board and we are EUnited members. We do not provide funding beyond membership dues.

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
In 2019, EUnited began developing a position on artificial intelligence (AI). The European Commission (EC) was considering how to regulate AI technology. The EC developed a consensus-based position, in which EUnited had a stakeholder voice. On 19 Feb 2020, the EC issued a White Paper stating: "By investing in AI, Europe's machinery and equipment suppliers can make significant contributions to Europe's Green and Digital transformation. ..... Artificial intelligence (AI) is a strategic technology that offers many benefits for citizens and the economy. It will change our lives by improving healthcare (e.g., making diagnosis more precise, enabling better prevention of diseases), increasing the efficiency of farming, contributing to climate change mitigation and adaptation, ... and in many other ways that we can only begin to imagine." https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf The position was noted in Mar 2020 EUnited news posting: "The Commission's White Paper on Artificial Intelligence – a European approach to excellence and trust--shows that the European Commission wants the EU to play a leading role in AI by developing an AI ecosystem which benefits society and the economy. EUnited wholeheartedly supports this objective. ..... By investing in AI, Europe's machinery and equipment suppliers can make significant contributions to Europe's Green and Digital transformation. Therefore, it is vital that any regulation in this area is clear, avoids any legal uncertainty and leaves room for innovation in companies of all sizes."

How have you influenced, or are you attempting to influence their position?
Tennant Company has taken a position on climate change. We have committed to long-term, science-based targets for emission reduction. We are taking aggressive action to reduce our value chain emissions. Tennant Company supports the EUnited position on AI, including those benefits which will arise from climate change mitigation and adaptation. EUnited members "can make significant contributions to Europe's Green and Digital transformation." NOTE: Tennant Company does not typically take positions on specific legislation.

Trade association
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.

Is your position on climate change consistent with theirs?
Mixed

Please explain the trade association's position
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.

How have you influenced, or are you attempting to influence their position?
Tennant Company has taken a position on climate change. We have committed to long-term, science-based targets for emission reduction. We are taking aggressive action to reduce our value chain emissions. Some, but not all, AACEM members hold a similar position on climate change. Tennant Company would support AACEM and ISSA taking a position on climate change similar to our position. NOTE: Tennant Company does not typically take positions on specific legislation.

C12.3d

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

C12.3f

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

Tennant Company has an internal policy named: ***Political Contributions and Public Policy Activities***.

"It is the Company's policy not to make direct Political Contributions and to only engage 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. If the Company should determine that direct Political Contributions are warranted to support our business and stakeholders' interests, it must submit its recommendation to the Governance Committee for approval in advance of making such Political Contribution. The Company's management will report to the Governance Committee of the Company's Board of Directors any direct lobby efforts and direct Political Contributions."

"Nothing in this Policy shall prohibit the Company from participating in trade associations, professional societies, industry groups and other tax-exempt organizations that represent the industries and business communities in which the Company operates."

Direct activities are an exception and must be reviewed and approved by the Board of Directors.

When we are determining whether to engage in an indirect activity, one consideration is whether the organization's mission is consistent with our vision, business strategies and Stewardship guiding principle: "We will use our core value of stewardship to guide our actions. We are accountable to our colleagues, our customers, our investors and our communities. We care for one another and work together for our mutual safety." Another consideration is whether the organization 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/resource use and other changes which benefit the environment.

In addition to trade associations disclosed in C12.3c, we engage with many trade and research organizations (indirect activities). Those where we maintain organizational membership include:

- ABIMAQ
- ABRALIMP
- AEFIMIL (Spain) – Spanish Association of Manufacturers and Importers of Industrial Cleaning Machinery
- AFIMIN (France) – Association of manufacturers of industrial hygiene and cleaning equipment and products
- American Association of Cleaning Equipment Manufacturers (AACEM) – note this is a subsidiary of ISSA
- American Rental Association (ARA)
- Association for the Healthcare Environment (AHE)
- Beijing Building Facility Management Service Association
- Beijing Cleaning Industry Association
- Building Service Contractors Association (BSCAI)
- Canada Green Building Council (CaGBC)
- CEB/Gartner Human Resources Practice Group
- China Cleaning and BSC Industry Association
- Cleaning Industry Research Initiative (CIRI)
- Cremona Energy Consortium
- Dongguan Environment Cleaning Association
- Environmental Initiative (EI)
- EPIC – Ethnographic Praxis in Industry Community
- EUnited Cleaning
- Foshan Environment Cleaning Association
- Fujian Province City Environment Cleaning Association
- Guangzhou Environment Cleaning Association
- Hefei Real Estate Property Management Association
- Henan Province Cleaning Industry Association
- Hunan Province Environment Cleaning Association
- International Sanitary Supply Association (ISSA)
- Jiangxi Province Environment Cleaning Association
- Material Handling & Logistics (MHL)
- Minnesota Business Partnership
- Minnesota Chamber of Commerce
- Nanning Environment Cleaning Association
- National Association of Corporate Directors (NACD)
- National Beer Wholesalers Association (NBWA)
- Precast/Prestressed Concrete Institute
- Professional Retail Store Maintenance Association (PRSM/CONNEX)
- Responsible Minerals Initiative
- SEAC
- Shanghai Environment Cleaning Association
- Sustainable Growth Coalition (SGC)
- The United Nations Global Compact (UNGC)
- U.S. Green Building Council (USGBC)
- VDMA (Germany)
- Waste Wise Minnesota
- Wuhan Environment Cleaning Association
- Zhuhai Environment Cleaning Association

In addition to company organizational memberships, many of our employees have individual professional association or research organization memberships.

C12.4

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

Publication
In voluntary sustainability report

Status
Complete

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

Page/Section reference
Products (pg 22-35) and GHG Emissions/Energy Section (pg 36-45) Overall performance scorecard can be found on page 21. The 2020 CSR contains our RY2019 carbon emissions data and CDP score. Given the timing of the CDP due date, we have decoupled the publication of CSR and Carbon emissions data. This makes our CSR more timely and relevant. As soon as our CDP response is submitted, we will make it public here: https://www.tennantco.com/en_us/about-us/corporate-citizenship/sustainability.html

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

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

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Publication
In voluntary communications

Status
Complete

Attach the document
Tennant Company RY2020 Assurance_Statement_Final.pdf

Page/Section reference
Tennant Company RY2020 Assurance_Statement_Final- pages 1-2 Our organizational response to climate change and GHG emissions performance is regularly made public here: https://www.tennantco.com/en_us/about-us/corporate-citizenship/sustainability.html Documents listed below detail our response and are in the GHG Emissions section on our website. The first document listed is also attached here: - RY 2020 Assurance Statement for Scope 1, 2, & 3 Emissions - CDP Response - CDP Score Report

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

Comment

Publication
In voluntary communications

Status
Underway – previous year attached

Attach the document
Tennant Company Value Chain Footprint - Financial Year 2019.pdf

Page/Section reference
Our organizational response to climate change and GHG emissions performance is regularly made public here: https://www.tennantco.com/en_us/about-us/corporate-citizenship/sustainability.html RY 2020 Value Chain GHG Emissions Inventory will be available and posted in August 2021.

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

Comment

C15. Signoff

C-FI

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

C15.1

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

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms