

PACCAR TCFD Report 2023

TCFD Topic	Required Disclosure	CDP Response Location
Governance	Describe the board's oversight of climate-related risks and opportunities.	C1.1a, C1.1b PACCAR's Nominating and Governance Committee Charter states that the Committee has responsibility for environmental, social, and governance matters.
	Describe management's role in assessing and managing climate-related risks and opportunities.	C1.2, C1.2a
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	C2.1a, C2.1b, C2.2, C2.2a, C2.3a, C2.4a
	Describe the impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning.	C2.3a, C2.4a, C3.2a, C3.3, C3.4
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	C3.2a
Risk Management	Describe the organization's process for identifying and assessing climate-related risks.	C2.1a, C2.1b, C2.2, C2.2a
	Describe the organization's process for managing climate-related risks.	C2.2, C2.2a, C3.3, C3.4
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall management.	C2.2, C2.2a, C2.3a, C3.2a, C3.3, C3.4
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	C4.1b, C4.2, C4.3, C4.3a, C4.3b, C4.5a, C-T09.6a
	Disclose Scope 1, Scope 2, and if appropriate, Scope 3 GHG emissions, and the related risks.	C2.2a, C6.1, C6.3, C6.4a, C6.5, C6.10, C7.1a, C7.2, C7.3c, C7.5, C7.6c, C7.9a, C-T07.8
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	C4.1b, PACCAR has committed to science-based targets to limit global warming to well below 2°C. PACCAR will reduce Scope 1 and 2 emissions by 35% and Scope 3 emissions by 25% by 2030 from a base year of 2018.

C0. Introduction

C0.1

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

PACCAR is a global technology leader in the design, manufacture and customer support of premium light-, medium- and heavy-duty trucks under the Kenworth, Peterbilt and DAF nameplates. The company also provides customized financial services, information technology and truck parts related to its principal business.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	No	<Not Applicable>

C0.3

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

- Australia
- Belgium
- Brazil
- Canada
- Mexico
- Netherlands
- 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

C-TO0.7/C-TS0.7

(C-TO0.7/C-TS0.7) For which transport modes will you be providing data?

Heavy Duty Vehicles (HDV)

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	PCAR

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	PACCAR's Chief Executive Officer (CEO), who is a member of the Board of Directors, has responsibility for climate-related issues. In 2021, the CEO made a climate-related decision to spend nearly 70% of PACCAR's 2021 \$334 million of R&D, on climate-related vehicle research and development to reduce product-use greenhouse gas emissions. This is because climate strategy, planning and responses are integrated into PACCAR's operations, planning, and capital budgeting processes, which are the responsibility of the CEO. The senior executives in charge of division operations, planning, strategy, and innovation report directly to the CEO on a weekly basis. For example, significant progress with advanced vehicle technology, including hybrid vehicles, low carbon fueled and electric vehicles is reported to the CEO on a weekly basis by PACCAR's Chief Technology Officer (CTO). The CTO's focus is on electrification and connected vehicles, hybrid vehicles, low carbon fuels and fuel cell technology for commercial freight applications. Between the CEO, CTO and other senior executives, presentation on the progress and strategies for advanced vehicles were provided to the Board of Directors at each Board Meeting.

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 – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding business plans	<Not Applicable>	Advanced vehicle technology such as hybrids, alternative low carbon fuels and electric vehicles is an agenda topic at each Board meeting, including climate-related issues. In this way, the Board of Directors provides guidance and oversight to PACCAR's overall climate change strategy related to advanced vehicle technology and low carbon transition planning.
Other, please specify (Every other year)	Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	Product use related greenhouse gas emissions regulations and goals are discussed every two years during Board level business strategy reviews and at other times, as appropriate. In this way, the Board of Directors monitors and oversees progress toward greenhouse gas emissions reduction targets for product use.
Sporadic - as important matters arise	Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	Board level presentation of facility related greenhouse gas emissions and goals is scheduled as needed. In this way, the Board of Directors monitors and oversees progress toward greenhouse gas emissions reduction targets for facilities.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	Climate-related competency is a combination of individual board members experience and capabilities combined with the governance and oversight systems and processes the board has in place. Climate-related competent board members understand the sense of urgency around climate change; the justification to transition to lower GHG emissions in the timeline laid out in by the Science-Based Target Initiative (SBTi); has relevant experience in climate related risks and opportunities facing PACCAR.	<Not Applicable>	<Not Applicable>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Chief Technology Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly

C1.2a

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

PACCAR's CEO, who is a member of the Board of Directors, has responsibility for climate-related issues in climate strategy, planning, operations, and capital budgeting processes. PACCAR's Chief Technology Officer reports directly to the CEO. Responsibility for strategic climate related issues has been assigned to the CTO because this role is also responsible for PACCAR's global information technology, innovation and technical centers in Silicon Valley and Washington State, and PACCAR's Engine and Powertrain groups and for PACCAR's advancement in electrification and connected vehicles, hybrid vehicles, low carbon fuels and fuel cell technology for commercial freight applications. The CTO monitors strategic climate-related issues through regulatory liaison work and collaboration with both existing suppliers and new advanced vehicle technology developers. This makes the CTO uniquely qualified to lead PACCAR's climate-related program for next generation products including strategy and planning for low carbon transitioning, scenario analysis and product-use greenhouse gas emissions goals. The CTO reports progress and strategies for advanced vehicles to the Board of Directors at some Board meetings including climate-related issues. In addition, the CTO provides progress reports on advanced technology vehicles such as hybrids, alternative low carbon fueled and electric vehicles, and other climate-related issues to the CEO, who is a member of the Board of Directors, on a weekly basis.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	none

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction project	PACCAR's executive bonuses are based on the attainment of goals, which can include the reduction of facility and/or product use greenhouse gas emissions. The CEO's 2021 incentives included goals to develop strategic plans for vehicle electrification and fuel cell hybridization, including zero-emissions vehicle strategies.

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	3	none
Medium-term	4	10	none
Long-term	11	30	none

C2.1b

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

For the purposes of evaluating PACCAR's climate risks and opportunities for this CDP report, "substantive" financial or strategic impacts on PACCAR's business can depend on many factors when identifying and assessing climate-related risks impacting upstream in the supply chain, directly in the business operations or downstream ability to timely identify or respond to changing demand for products and services. In the context of climate-related factors and this CDP response, a quantitative guideline for a substantive impact can be described as a measurable financial change over 5% percentage points of PACCAR's annual net income. Risks and opportunities deemed substantive for the purposes of this CDP report may not be considered substantive or material for Securities and Exchange Commission (SEC) reporting purposes.

C2.2

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

Value chain stage(s) covered

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

Downstream climate-related risk management is integrated companywide into PACCAR's multi-disciplinary management process. PACCAR's risk management process assesses risk multiple times a year – monthly, quarterly, annually continuously identifying, assessing, and responding to potential impacts. [Identification] Risks and opportunities are identified on site, product, division and global basis by an integrated and multi-disciplinary management team and process culminating in semi-annual review meeting. Risk and opportunities are assessed for short-, medium- and long- term time horizons. Bottom-up and top-down processes are both used to identify climate-related risks and opportunities. [Assessment] For assessments, short-, medium-, long-term considerations are made when responding to identified risks and opportunities from increasing regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. The identification and assessment require external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers. [Response] After potential impacts are identified and assessed, they are reported to PACCAR's Board of Directors. In this way, appropriate strategic decisions can be made on timely responses as climate strategy, planning and responses are integrated into PACCAR's operations, planning, and capital budgeting processes, which are the responsibility of the CEO and senior executives in charge of division operations, planning, strategy, and innovation. For example, in 2021, PACCAR made strategic decisions on factory upgrades and product development by allocating nearly 70% of \$324 million in R&D funding towards climate-related research and development and \$512 million on capital projects.

Value chain stage(s) covered

Upstream

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

PACCAR's risk management process identifies, assesses, and responds to material impacts to PACCAR's business. For example, both supply chain and regulatory risks are identified and evaluated relative to annual financial reporting of material risks in PACCAR's Form 10-K, including both climate-related physical and transitional risks. As an example of physical risks, PACCAR's 2021 Form 10-K identifies [Situation] unexpected events, including natural disasters and extreme weather events that may increase the company's cost of doing business or disrupt the company's or its suppliers' operations. Climate related extreme weather events can cause power outages, floods, landslides, and damage facility and transportation infrastructure such as buildings, roads, bridges, and rail tracks. The risk is that power outages, facility and infrastructure damage from extreme weather events such as hurricanes, tornadoes and flooding can disrupt PACCAR's supply chain. For example, in 2018 Hurricane Florence disrupted deliveries of truck parts from several of PACCAR's suppliers, primarily in the southeastern region of the United States, for an extended period due to flooding-related shutdowns. [Task] The response to material risks represents opportunities for PACCAR to avoid interruptions to production and supply chains by evaluating the materiality of both chronic and acute climate-related flood risks and opportunities for anticipating and managing both operations and the supply chain resiliency. [Action] As an example of the short-, medium-, long-risk management process, supply chain related risks are identified and assessed by production, purchasing, and supplier management teams. As an example, in response to the supply chain disruption caused by Hurricane Florence, PACCAR's Kenworth, Peterbilt and DAF factories, and PACCAR's purchasing, and supplier management teams made an orchestrated effort to address supplier issues quickly by managing off-line production flow in PACCAR's factories to match parts shortages. In addition, Tier 1 suppliers invested in additional capacity and worked closely with Tier 2 suppliers to meet factory delivery requirements. [Result] The resulting supplier related risks were identified and evaluated globally, along with successful strategic responses, to identified risks, which were reported to the Board of Directors. As part of the strategic planning and decision-making process, the allocation of capital spending on supply chain development and resiliency was enacted. For example, PACCAR's quick operational response and supplier engagement related to Hurricane Florence related supply chain disruption normalized the situation within four months of the weather event. As an example of transitional risk, [Situation] the global regulation of greenhouse gas emissions and zero emissions commercial vehicles can require significant product development costs and timelines to reduce product use greenhouse gas emissions. [Task] To be successful over the short-, medium-, and long-term time horizon, PACCAR must identify and comply with global regulatory and policy developments, engage in advanced vehicle design trends, invest in the development of commercially viable products and operations, and optimize supplier readiness related to the future of commercial vehicles. [Action] PACCAR participates in trade associations such as Engine Manufacturers Association (EMA) and the European Automobile Manufacturer's Association (ACEA) and engages with suppliers in advanced vehicle technology such as a zero emissions hydrogen fuel cell electric vehicle collaboration with Toyota. [Result] As a result of PACCAR's focus on compliance with regulations, and supplier engagement related to advanced, commercial vehicles, PACCAR is a leader in the development of battery-electric, hybrid, hydrogen combustion and hydrogen fuel cell vehicles. Kenworth, Peterbilt and DAF delivered battery-electric trucks to customers in 2021 and have seven zero emissions vehicle models in production with a backlog of hundreds of customer orders. PACCAR Parts launched turn-key electric vehicle charging solutions for customers and sold over 100 chargers. PACCAR worked with the Department of Energy and received a \$33 million grant for zero emissions technology development in 2021.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

PACCAR's risk management process identifies, assesses, and responds to potential material impacts to PACCAR's business including operational risks, such as higher operational costs. Potential operationally related impacts are identified and assessed on a global basis by experienced internal management at semi-annual meetings, by senior executives in charge of division operations, and through external engagement in trade associations and direct agency collaborations. An example of identification and assessment of potential material impacts is reported in PACCAR's 2021 Form 10-K which discloses that operations are subject to environmental laws and regulations that impose significant compliance costs. As a result, PACCAR could experience higher research and development and manufacturing costs due to changes in government requirements for its products, including changes in emissions, fuel efficiency, greenhouse gas emissions, or other regulations. After potential material impacts are identified and assessed they are reported to PACCAR's Board of Directors. In this way, timely strategic decisions are made to remediate identified risks such as to allocate capital and research and development spending to increase operational efficiency and resiliency. The responses to material risks represents opportunities for PACCAR to lower operating expenses including anticipating and managing legal requirements. In 2021, PACCAR made strategic decisions on factory upgrades and product development in allocating nearly 70% of \$334 R&D spending towards climate-related research and development in addition to \$511 million in capital projects.

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	Regulatory requirements are a strategic risk for PACCAR and are always evaluated because compliance with all applicable regulations for manufacturing and use of commercial vehicles must be achieved to increase market share and revenues, as well to avoid fines. Regulatory risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from increasing regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related risks, including regulations, are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of regulatory risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. For example, product level regulation by EPA of greenhouse gas emissions from PACCAR's nameplate Kenworth and Peterbilt heavy-duty vehicles (see Federal Register Vol 76 No 179) sold in the U.S. is of strategic importance to PACCAR in the development of vehicles and in providing customers with operationally efficient and compliant trucks.
Emerging regulation	Relevant, always included	Emerging regulatory requirements are a strategic risk for PACCAR and are always evaluated because compliance with all applicable regulations for manufacturing and use of commercial vehicles must be achieved to retain market share as well to avoid fines. Regulatory risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from increasing regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related risks including emerging regulations are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of regulatory risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. PACCAR participates in industry groups and collaborates directly with government agencies to identify and provide support in the drafting of regulations related to road freight and manufacturing operations. For example, two of PACCAR's nameplates, Kenworth and Peterbilt, collaborated with the Port of Long Beach California, Transpower and the California Air Resources Control Board to develop all electric models to meet potential new requirements for zero emissions port logistics.
Technology	Relevant, always included	The strategic technology risk for PACCAR is not providing our customers with the highest quality, most advanced, and lowest operating cost vehicles in the market and thereby reducing market share and revenues. Technology risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from increasing regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related risks including new technology are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of technology risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. For example, PACCAR's goal is to provide our customers with the most technologically advanced vehicles, such as PACCAR's nameplate DAF's new XF, XG and XG+ conventional trucks improve fuel efficiency by up to 10 percent and the new Kenworth T680 and Peterbilt 579 models deliver up to a seven percent fuel efficiency improvement and reduced CO2 emissions.
Legal	Relevant, always included	PACCAR's core values include legal compliance in all aspects of the business. Legal risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from increasing laws and regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related risks including legal compliance are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of legal risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. Legal compliance is a part of strategic planning related to advanced vehicle technology and facility operations. For example, the risk of legal non-compliance and litigation with product related regulations from EPA of greenhouse gas emissions from PACCAR's nameplate Kenworth and Peterbilt heavy-duty vehicles (see Federal Register Vol 76 No 179) sold in the U.S. is of strategic importance to PACCAR in the development of vehicles and in providing customers with operationally efficient and compliant trucks. In addition, facility compliance with applicable emissions laws and regulations including greenhouse gas emissions trading and taxation is both a cost of doing business and an opportunity to reduce costs.
Market	Relevant, always included	The strategic market risk for PACCAR is not meeting customer expectations for product quality, advanced vehicle technology, operational efficiency, and lower environmental impact, and thereby reducing market share and revenues. Market risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from increasing regulations, changing customer preferences, new disruptive technology, and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related market risks are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of market risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. PACCAR's goal is to increase market share by providing customers with industry leading trucks with reduced operating costs and lower environmental impacts including emissions, such as PACCAR's nameplate DAF's new XF, XG and XG+ conventional trucks improve fuel efficiency by up to 10 percent and the new Kenworth T680 and Peterbilt 579 models deliver up to a seven percent fuel efficiency improvement and reduced CO2 emissions.
Reputation	Relevant, always included	The strategic reputational risk for PACCAR is not maintaining a reputation for product quality, advanced vehicle technology, operational efficiency, and low environmental impact, and thereby reducing market share and revenues. Reputational risks are identified and assessed on a global basis by experienced internal management at semi-annual meetings, and through external stakeholder engagement including frequent collaborations with partners, suppliers, government agencies and customers to identify risks from stakeholder opinion of PACCAR's reputation, increasing regulations, changing customer preferences, new disruptive technology and public policy support for low carbon transportation infrastructure such as vehicle electrification and low carbon fuels. Product or transition related reputational risks are identified and evaluated globally and reported to the Board of Directors quarterly. Evaluation of reputational risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. For example, PACCAR's reputation for quality, advanced vehicles with lower operating costs and lower environmental impacts were enhanced with the introduction of PACCAR's nameplate DAF new CF and XF models with highly efficient transmissions and rear axles. Along with a new compact after-treatment system, sophisticated software and aerodynamic optimization, the new DAF new XF, XG and XG+ conventional trucks improve fuel efficiency by up to 10 percent and the new Kenworth T680 and Peterbilt 579 models deliver up to a seven percent fuel efficiency improvement and reduced CO2 emissions.
Acute physical	Relevant, always included	Extreme weather events can cause power outages, floods, landslides, and damage facility and transportation infrastructure such as buildings, roads, bridges, and rail tracks. The risk is that power outages, facility, and infrastructure damage from extreme weather events such as hurricanes and flooding can immediately disrupt PACCAR's operations, as well as PACCAR's suppliers and customers. One example of acute physical risks for PACCAR is the risk of a hurricane damage, which could disrupt the supply chain, resulting in delays in production and reduced profits. For example, in September of 2018 Hurricane Florence disrupted deliveries of parts from several of PACCAR's suppliers in the southeastern region of the United States for an extended period due to flooding-related shutdowns. Weather and infrastructure related risks including acute physical risks, such as hurricanes, are identified and assessed on a global basis through PACCAR's business continuity evaluation and planning process. In addition, third party reviews of physical risks to PACCAR facilities are also performed periodically. Evaluation of acute physical risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects.
Chronic physical	Relevant, sometimes included	Weather and infrastructure related risks including chronic physical risks are identified and assessed on a global basis through PACCAR's business continuity evaluation and planning process. Also, third party reviews of physical risks to PACCAR facilities are performed periodically. Evaluation of chronic physical risks includes determination of the magnitude of the financial risk. The significance of the financial impact of identified risks, including climate-related risk, is based on the likelihood of occurrence and potential financial impacts. The financial impact of climate-related risk is based on key assessment aspects including the proportion of business units affected, the size of the impact on those business units and the potential shareholder or customer concern. A substantive financial impact could occur due to a large change in one of these key aspects or a small change in all three aspects. For example, one of PACCAR's chronic physical risks includes a potential rise in sea levels over the next century, which could disrupt operations of our largest manufacturing plant located in the Netherlands. Fifty percent of the Netherlands is less than one meter above sea level and 17% is below sea level, and as a result will be a region at risk of climate related flooding and storm surges. Eindhoven, The Netherlands, the location of DAF is approximately 17 meters above sea level.

(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

Market	Changing customer behavior
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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

PACCAR's customers may be increasingly interested in environmentally innovative vehicles and engines that can reduce their carbon footprint and reduce their operating costs by using less fuel. The risk to PACCAR is that changing customer preferences could lead to lower demand and lower sales if Kenworth, Peterbilt and DAF commercial vehicles do not meet changing customer expectations for vehicles and engines with improved fuel economy and reduced greenhouse gas emissions. PACCAR's product planning is focused on customer preferences and consistent with climate change scenarios that limit global warming to below 2 degrees C (B2DS). Key climate scenario predictions indicate that by 2060 diesel trucks will comprise 14% of sales, hybrid vehicles will be 20% of sales, CNG/LNG 3%, and 63% of sales will be fuel cell and electric road system (ERS) capable trucks. For this reason, the risk of changing customer preferences could impact PACCAR's future revenues by approximately \$36 billion in 2060 unless PACCAR is able to provide its customers with industry leading, low carbon commercial trucks including hybrid, fuel cell and ERS capable vehicles. To address this risk, PACCAR has invested \$7.3 billion in capital projects, innovative products, and new technologies in the last decade through 2021. A majority of the investments are in technologies that reduce greenhouse gas emissions such as highly fuel-efficient diesel engines, natural gas and biofuel engines, as well as next generation electric, hybrid, and hydrogen fuel cell powertrains. In the near- and mid-term, PACCAR remains a leader in developing battery-electric, hybrid, hydrogen combustion and hydrogen fuel cell vehicles. Kenworth, Peterbilt and DAF delivered battery-electric trucks to customers in 2021 and have seven zero emissions vehicle models in production with a backlog of hundreds of customer orders. PACCAR Parts launched turn-key electric vehicle charging solutions for customers and sold over 100 chargers. PACCAR worked with the Department of Energy and received a \$33 million grant for zero emissions technology development. For the long term, PACCAR is keeping pace with changing customer preferences and will invest in research and development to sustain industry leadership. The risk to PACCAR's estimated 2060 future market share by changing customer preference is a possible loss of a 12% margin on half to one percent of revenue by not increasing market share or approximately \$25 million to \$50 million.

Time horizon

Long-term

Likelihood

Unlikely

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)

25000000

Potential financial impact figure – maximum (currency)

50000000

Explanation of financial impact figure

PACCAR's road freight product planning through 2030 takes into account customer preferences and is consistent with climate change scenario analysis for limiting global warming to below 2 degrees C (B2DS) through 2060. Key climate scenario predictions ("Future of Trucks", IEA 2017) of the size and composition of road freight vehicle sales indicate that by 2060 diesel trucks will comprise 14% of sales, hybrids will be 20% of sales, CNG/LNG 3%, and 63% of sales will be fuel cell and electric road system (ERS) capable trucks. Also, overall sales are projected to increase by 280% over 2015 sales (Note 2015 is used as the original baseline year for evaluating Scope 3 science based GHG emissions targets). Applying these projections to PACCAR's 2015 sales revenue of \$14,782,500,000 indicates that if PACCAR is unable to offer customers a full range of industry leading, low carbon road freight vehicles including hybrids, CNG/LNG, fuel cell and ERS capable trucks, that by 2060, PACCAR truck sales revenue will be reduced by about 86% or close to \$35.6 billion. This is calculated by multiplying 2015 revenue by projected sales growth through 2060 and then multiplied by the potential reduction in market share of non-diesel vehicles in 2060 ($\$14,782,500,000 \times 280\% \times 86\% = \$35,596,260,000$), which is a substantial impact. In 2021, PACCAR is a leader in the development of battery-electric, hybrid, hydrogen combustion and hydrogen fuel cell vehicles, as well as, launching truck models in North America and Europe with up to a 7% and 10% fuel efficiency gain respectively. In 2021, it appears highly unlikely that PACCAR will not offer competitive vehicle models and service solutions to sustain or expand market share and avoid the nearly \$36 billion in estimated reduction in revenue by 2060. With competitive products and service entering the marketplace in 2021, focus changes to an estimate of one half to one percent of competitive market revenue estimated for 2060 and the lost margin estimated at 12% if PACCAR was not to build or sell vehicles to gain the one-half to one percent market increase in market share ($\$14,782,500,000 \times 280\% \times$ either 0.5% or 1% = range of approximately \$206,955,000 to \$413,910,000. The unsold vehicles are not built, therefore the risk is approximately a 12% margin on vehicles multiplied by the range of lost revenue between \$206,955,000 to \$413,910,000 = \$24,834,600 to \$49,669,200).

Cost of response to risk

6500000000

Description of response and explanation of cost calculation

[Situation] PACCAR manages the risk of shifting customer preferences, which could substantially impact PACCAR's revenues and market share by [Task] continuing to expand climate-related advanced technology truck offerings, which exceed customer performance expectations through innovative research and development, partnerships and collaboration. [Action] In the short- (0-3 years) and medium- (4-10 years) term PACCAR continues to invest and develop innovative products. For example, in 2021, PACCAR's strategic decision was to spend nearly 70% of the overall \$334 million research and development spending, on climate related product innovation to reduce greenhouse gas emissions and improve fuel economy. As also seen in PACCAR's strategic focus on improving fuel economy, PACCAR invested in the further development of battery-electric, hybrid and hydrogen fuel cell vehicles. The long term impacts remain to be seen as markets adopt and transition to better fuel economy and battery-electric, hybrid and hydrogen fuel cell vehicles and the technology continue to evolve. [Result] As a result, PACCAR's Kenworth and Peterbilt Divisions began taking customer orders for production model Kenworth K270E and the Peterbilt Model 220EV battery electric trucks in 2021. In addition, PACCAR's extensive zero emissions field testing program, with customers operating more than 60 Kenworth, Peterbilt and DAF test trucks, will provide valuable real-world experience to enhance these future product launches. Kenworth and Peterbilt customers will also be able to order electric chargers from PACCAR Parts, and PACCAR Financial will provide flexible financing options for infrastructure and charging systems. PacLease will bundle the cost of charging systems within full service lease offerings to customers. The cost to manage long term changing customer preferences for innovative road freight technology is calculated by multiplying 50% of the estimated climate-related annual R&D expenses for 2021 times thirty-nine years to extrapolate the order of magnitude for R&D spending over the thirty-nine years between 2021 and 2060 (39 x 167,000,000 = \$6,513,000,000).

Comment

none.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Current regulation	Mandates on and regulation of existing products and services
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Regulations such as the U.S. EPA's Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles as found in Federal Register vol 78 No 116 require PACCAR to improve fuel efficiency and reduce greenhouse gas emissions from the commercial vehicles and engines sold in the U.S. Canada has similar regulations. The risk for PACCAR is the potential increased costs due to fines if Kenworth and Peterbilt vehicles and engines are not compliant with greenhouse gas regulatory standards in the United States. Recent penalties on a competitor's engines that exceeded EPA's engine emissions standards amounted to about \$2,000 per engine. If the same penalty was applied to PACCAR's 2021 vehicle sales in the US and Canada with PACCAR engines, that would be a cost in the range of \$24 million to \$54 million due to non-compliance penalties, which is a substantive financial impact.

Time horizon

Short-term

Likelihood

Unlikely

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)

24000000

Potential financial impact figure – maximum (currency)

54000000

Explanation of financial impact figure

The potential financial impact for non-compliant vehicles and engines includes the loss of sales and/or fines and penalties. Recent penalties on a competitor's engines that exceeded EPA's engine emissions standards amounted to about \$2,000 per engine. If the same penalty was applied to PACCAR's 2021 vehicle sales with PACCAR engines in the US and Canada, that would be a cost range of an estimated \$24 million to \$54 million due to non-compliance penalties depending on the quantity of engines affected. This cost is calculated by multiplying \$2,000 times a range of PACCAR's 2021 deliveries of vehicles in the US and Canada with PACCAR MX engines impacted by non-compliance (\$2,000 x range of 12,000 to 27,000 engines = a range of \$24,000,000 to \$54,000,000).

Cost of response to risk

223000000

Description of response and explanation of cost calculation

[Situation] The risk that new greenhouse gas regulation of products could adversely and substantially impact revenue, market share and operating costs is [Task] managed through continuous improvement of fuel efficiency, alternative and low carbon fuel compatible products including hybrid vehicles. The cost to manage the product regulatory risk includes product research and development, policy engagement and compliance testing. For example, [Action] in 2021, PACCAR spent nearly 70% of the \$334 million R&D budget on climate-related advanced vehicle technology research and development launching many new products that offer better fuel economy and lower greenhouse gas emissions. For example, PACCAR recently announced launch of DAF's new, industry-leading heavy-duty truck models in June 2021. The new DAF XF, XG and XG+ trucks represent a \$1 billion investment. The DAF truck's streamlined design delivers up to 10% greater fuel efficiency. [Result] PACCAR's research and development spending resulted in market leading development of alternative powertrains including battery-electric, fuel cell and hybrid commercial vehicles. PACCAR's Kenworth and Peterbilt Divisions is taking customer orders for production model Kenworth K270E and the Peterbilt Model 220EV battery electric trucks in 2021. In addition, PACCAR's extensive zero emissions field testing program, with customers operating more than 60 Kenworth, Peterbilt and DAF test trucks, continues providing valuable real-world experience to enhance future product launches. Kenworth and Peterbilt customers will also be able to order electric chargers from PACCAR Parts, and PACCAR Financial

will provide flexible financing options for infrastructure and charging systems.

Comment

none

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical	Cyclone, hurricane, typhoon
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Extreme weather events can cause power outages, floods, landslides, and damage facility and transportation infrastructure such as buildings, roads, bridges and rail tracks. The risk is that power outages, facility, and infrastructure damage from extreme weather events such as hurricanes, tornadoes and flooding can immediately disrupt PACCAR's supply chain. For example, in September of 2018 Hurricane Florence disrupted deliveries of parts from several of PACCAR's suppliers in the southeastern region of the United States for an extended period due to flooding-related shutdowns. The National Weather Service reported that Hurricane Florence "was the wettest tropical cyclone to hit the Carolinas." Impacts included "thousands of downed trees which caused widespread power outages, a record breaking storm surge of 9 to 13 feet and devastating rainfall of 20 to 30 inches, which produced catastrophic and life-threatening flooding." As a result, production capacity was impacted at PACCAR's North American truck factories. Cost impacts were estimated to be in the \$10 million range due to supply chain disruption and temporarily delayed production.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

10000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The potential financial impact of climate-related physical risk depends upon the extent and duration of the interruption of operations. For example, in 2018 prolonged flooding from Hurricane Florence disrupted PACCAR's supply chain resulting in a temporary production slowdown and higher costs of materials and labor within PACCAR's North American supply chain and operations. The financial impact is difficult to quantify, but, for the purpose of this CDP report, an estimate is made at about 50 basis points of gross margin. The cost impact was calculated by multiplying PACCAR's 2018 truck segment gross margin by 50 basis points (0.005 x \$2,147,500,000 = 10,737,500 – \$10 million), since the storm occurred in 2018.

Cost of response to risk

149000

Description of response and explanation of cost calculation

Weather and infrastructure related risks are managed not only through PACCAR's business continuity evaluation and planning process, but as a normal part of managing PACCAR's supply chain. For example, [Situation] in 2018 in response to parts shortages due to Hurricane Florence and [Task] in order to maintain or grow revenue and market share by managing supply chain disruption, [Action] PACCAR's Kenworth, Peterbilt and DAF factories, and purchasing and supplier management teams made an orchestrated effort to address supplier issues quickly and to manage off-line production flow in PACCAR factories to match parts shortages. In addition, Tier 1 suppliers invested in additional capacity and worked closely with Tier 2 suppliers to meet factory delivery requirements. [Result] The situation was normalized within four months of the extreme weather event, and that year (2018) PACCAR achieved the second highest Class 8 market share in its history and a record high market share of medium-duty in the US and Canada. Management of weather related risks is part of PACCAR's standard operating costs. Specific costs applicable to managing supply chain disruption caused by Hurricane Florence are difficult to calculate. However, potential cost impacts were estimated to be in the \$10 million range (see "Explanation of financial impact figure" above), which represents a 0.06% impact to PACCAR's 2018 truck segment cost of sales and revenues (\$10,000,000/\$16,039,500,000 = 0.06%). Multiplying PACCAR's 2018 Truck SG&A by the same 0.06% ratio of potential cost impact results in a \$149,000 cost of management of weather related risks (0.06% x \$248,300,000 = \$148,900).

Comment

none

C2.4

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

Yes

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

Opp1

Where in the value chain does the opportunity occur?

Upstream

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

PACCAR can increase revenues by developing innovative new products through research and development, and supplier partnerships and collaborations. An example of PACCAR's new product development research and development and supplier collaborations includes PACCAR's multi-year collaboration with California's Climate Investments and Low Carbon Transition programs and supplier, TransPower, to develop and commercialize zero and near-zero emissions trucks. Phase I featured Kenworth's CNG range-extended plug-in hybrid electric trucks developed under the SCAQMD/DOE ZECT 2 program, as well as Peterbilt/TransPower battery design for increased capacity at the same system weight to increase electric range. PACCAR's research and development spending decisions are strategically focused on supplier collaborations for new product innovation such as hybrid electric road freight vehicles. As a result of supplier collaborations, such as with TransPower, the financial benefit to PACCAR is estimated to be in the \$7 to \$8.2 billion range based on climate scenario estimates of the growth in hybrid, LNG/CNG and electric road system vehicles through 2030.

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)

7000000000

Potential financial impact figure – maximum (currency)

8200000000

Explanation of financial impact figure

The financial benefit of PACCAR's development of CNG range-extended plug-in hybrid electric trucks, such as those developed in collaboration with suppliers such as TransPower, is a key part of PACCAR's business strategy to increase revenues in the medium term. Using climate change scenario analysis for limiting global warming to below 2 degrees C (B2DS) through 2030, key climate scenario predictions ("Future of Trucks", IEA 2017) of the size and composition of road freight vehicle sales indicate that by 2030, the number of heavy duty trucks in use increases globally from about 25 million vehicles in 2015 to about 45 million vehicles in 2030, of which 7 million units will be hybrids. Another 3 million units will be CNG/LNG and electric road system units by 2030. Assuming half of the 3 million CNG/LNG and ERS units in use in 2030 are CNG/LNG, the increase in PACCAR's vehicle sales and revenue growth due to expanding market share into hybrid and CNG/LNG in use vehicles could be in the range of 8.5 million (7 million + (1/2 x 3 million) = 8.5 million) units up to 10 million (7 million + 3 million = 10 million) units including ERS vehicles. Diesel heavy duty vehicles are predicted by climate scenarios to comprise 28.3 million units (see calculation in OPP 1) and the majority of in use vehicles in 2021. The new product market share for hybrid and CNG/LNG/ERS is predicted to grow by (8.5/28.3 = 30% to 10/28.3 = 35%). The potential financial benefit for PACCAR is based on 2021 revenue and the climate scenario growth in road freight in use units as a proxy for revenue growth through 2030. The low range of revenue increase is calculated to be \$7 billion, which is calculated by multiplying 2021 revenue by the low range market share growth of 30% (\$23,520,000,000 x 0.3 = \$7,056,000,000) through 2030. A high end estimate of additional potential revenue through 2030 is calculated to be \$8.2 billion (\$23,520,000,000 x 0.35 = \$8,232,000,000) with the development of market competitive hybrid, CNG/LNG and ERS road freight heavy duty vehicles.

Cost to realize opportunity

223000000

Strategy to realize opportunity and explanation of cost calculation

Short term as defined in Section C2.1 is the investment in development, the mid-term strategy (4-10 years) is described below based on scenario analysis. Long term strategy (11-30) requires further evaluation as market evolves. [Situation] Climate scenario modelling of medium term, in use, road freight composition indicates that diesel trucks will compose a smaller market share in 2030 than in 2020. Hybrid and CNG/LNG trucks are expected to increase substantially in market share by 2030. In order to increase revenues, [Task] PACCAR's supplier collaboration, and research and development spending decisions must be strategically focused on the predicted increasing demand for new products and services such as hybrid and CNG/LNG and ERS vehicles. [Action] In 2021, PACCAR spent nearly 70% of PACCAR's overall \$334 million research and development spending in 2021, on climate-related advanced vehicle technology research and development and supplier collaboration. [Results] Because of PACCAR's focus on supplier partnerships, collaboration, and research and development spending on new product development, PACCAR's R & D spending included funding of a collaboration with TransPower for the development of hybrid and CNG/LNG range extended, road freight vehicles providing PACCAR with the knowledge and partnerships needed to increase revenue over the medium term as the market for road freight vehicles transitions to low carbon, alternative powertrains.

Comment

none

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

PACCAR can increase revenue by understanding and exceeding customer's shifting preferences for environmentally innovative vehicles and engines that can reduce their carbon footprint and their operating costs by using less fuel. The opportunity for PACCAR is to increase revenues by collaborating with customers in developing advanced, low emission commercial vehicles that improve fuel economy and reduce greenhouse gas emissions and customer operating costs. For example, Kenworth and customer, UPS (United Parcel Services), continue to collaborate on the U.S. Department of Energy DOE SuperTruck II Program. Kenworth is developing important advancements in Class 8 truck aerodynamics, engine and powertrain efficiencies under the SuperTruck II program with the Vehicle Technologies Office of the U.S. DOE. Goals for the program include the demonstration of a greater than 100 percent improvement in freight efficiency over 2009 equivalent product, and achieving 55 percent brake thermal engine efficiency using the industry-leading PACCAR MX engine. For the SuperTruck II project, UPS will provide guidance on its drive-and-duty cycles to optimize SuperTruck II performance. UPS will also offer advice on the commercial feasibility and driver acceptance of technologies developed under SuperTruck II. This important program is designed to produce advancements that will benefit fleets and truck operators with future reductions in fuel usage and emissions. As a result of customer collaborations, such as with UPS, the financial benefit to PACCAR is estimated to be in the \$4.5 to 4.9 billion range based on climate scenario estimates of the growth in advanced, low emission diesel vehicles by 2030.

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)

4500000000

Potential financial impact figure – maximum (currency)

4900000000

Explanation of financial impact figure

The financial benefit of new low emission, heavy-duty vehicles, such as those developed through the SuperTruck programs and in collaboration with customers, such as UPS, is estimated using climate change scenario analysis for limiting global warming to below 2 degrees C (B2DS) through 2030. Key climate scenario predictions ("Future of Trucks", IEA 2017) of the size and composition of road freight vehicle sales indicate that by 2030 the number of heavy duty trucks in use increases globally from about 25 million vehicles in 2015 to about 45 million vehicles in 2030. The numbers of diesel internal combustion engine units, such as the SuperTruck models, peaks in 2030 at just over 35 million in use units out of a total of 45 million units. This climate scenario predicts the growth of in use heavy duty diesel units to be about 10 million units by 2030 (35 million - 25 million = 10 million). Interpolating between 2015 and 2030 results in a 2020 baseline of about 28.3 million ($10,000,000/15 \times 5 = 3,333,333$, $25,000,000 + 3,333,333 = 28.3$ million) in use diesel vehicles in 2020. The climate scenario estimated growth between 2020 and 2030 is expected to be 6.7 million units (35 million - 28.3 million = 6.7 million) or about 24% ($6.7/28.3 = 23.7\%$) growth of global in-use diesel vehicles. Using global in-use vehicle predictions as a proxy for revenue growth, based on PACCAR's 2020 revenue of \$18,728,500,000, the low range of financial benefit is estimated at \$4.5 billion ($\$18,728,500,000 \times 0.24 = \$4,494,840,000$), provided PACCAR maintains the current market share of global sales between 2020 and 2030. A 10% increase in market share of diesel units between 2020 and 2030 yields a high end range of financial benefit of \$4.9 billion (0.10×6.7 million units = 670,000 units, 6.7 million units + 670,000 units = 7.4 million units, $7.4 / 28.3 = 26\%$, $0.26 \times \$18,728,500,000 = \$4,869,410,000$). Increasing market share will require PACCAR to develop the most technologically advanced diesel trucks in the market which will require complete biodiesel capable units, and the extreme efficiency improvements being developed through the SuperTruck program.

Cost to realize opportunity

2230000000

Strategy to realize opportunity and explanation of cost calculation

[Situation] Demand for lower emissions vehicles can be driven by shifting customer preferences. For example, customers may be shifting demand to environmentally innovative vehicles and engines that can reduce their carbon footprint and their operating costs by using less fuel. [Task] PACCAR's strategy is to increase revenue by developing low emission, advanced commercial vehicles that improve fuel economy and reduce greenhouse gas emissions and customer operating costs through customer collaboration, research and development and innovation. [Action] PACCAR's research and development spending decisions are strategically focused on product innovation including reducing greenhouse gas emissions and improving fuel economy. PACCAR spent nearly 70% of \$334 million of R&D on climate related advanced vehicle technology research and development in 2021 and launched many new products that offer better fuel economy and lower greenhouse gas emissions. A breakdown of new products is available at Paccar.com in the 2021 Annual Report as well as Paccar.com/investors where updated quarterly investor presentations are available. [Results] Kenworth and customer, UPS, continue to collaborate on the DOE SuperTruck II Program. Kenworth is developing important advancements in Class 8 truck aerodynamics, engine and powertrain efficiencies under the SuperTruck II program with the Vehicle Technologies Office of the U.S. Department of Energy.

Comment

none

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of climate adaptation, resilience and insurance risk solutions

Primary potential financial impact

Increased revenues resulting from increased production capacity

Company-specific description

PACCAR can increase revenues by optimizing production capacity through business continuity and resiliency planning to respond to climate related physical risks of extreme weather damage. Extreme weather events can cause power outages, floods, landslides, and damage facility and transportation infrastructure such as buildings, roads, bridges and rail tracks. By understanding the potential impacts to production and distribution systems, PACCAR can mitigate impacts to operations and optimize recovery, thereby increasing resiliency and revenues. For example, PACCAR manages weather and infrastructure related opportunities not only through a business continuity evaluation and planning process, but also as a normal part of managing PACCAR's supply chain. PACCAR's Kenworth, Peterbilt and DAF factories, and purchasing and supplier management teams coordinate quickly to orchestrate supplier opportunities, and if needed to manage off-line production flow in multiple PACCAR factories including the Peterbilt plant in Denton Texas, as well as Kenworth's Chillicothe Ohio factory to match parts logistics. In this way, PACCAR is able to optimize climate related production resiliency and capacity, which can increase revenue by \$168 million.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

168000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The financial benefit of the climate-related opportunity to increase revenues by optimizing production capacity through business continuity and increased resiliency is due to PACCAR's ability to shift production and parts operations to other geographic areas, and to manage off-line production at facilities, which are not impacted by climate related impacts. For example, PACCAR's successful production capacity resilience during Hurricane Florence in 2018 resulted in the second highest Class 8 market share in PACCAR's history, a record high market share of medium-duty vehicles in the US and Canada, and increased the contribution of truck manufacturing to revenue by 1%. Applying the same 1% increase in revenue contribution, for example, PACCAR can expect that increased production capacity resilience can increase revenues by \$168 million due to a 1% annual increase in PACCAR's Truck segment contribution to revenues. This is an example for the purpose of this CDP report, PACCAR may not necessarily increase revenues as there are other contributing factors. This is calculated by multiplying 2021 truck segment revenue by 1% ($0.01 \times \$16,799,700,000 = \$167,997,000$).

Cost to realize opportunity

161000

Strategy to realize opportunity and explanation of cost calculation

[Situation] PACCAR's strategy for realizing opportunities to increase resiliency, revenues and market share is to optimize operational flexibility, production capacity and enhance supplier resiliency. [Task] In the event of extreme weather damage to supply chain distribution and PACCAR's operations, PACCAR's ability to shift production and parts operations to other geographic areas, and to manage off-line production at facilities, which are not impacted, is key to PACCAR's weather-related resiliency. [Action] As an example, in 2018 in response to parts shortages due to Hurricane Florence, PACCAR's Kenworth, Peterbilt and DAF factories, and purchasing and supplier management teams made an orchestrated effort to address supplier issues quickly and to manage off-line production flow in PACCAR's factories to match parts shortages. In addition, Tier 1 suppliers invested in additional capacity and worked closely with Tier 2 suppliers to meet factory delivery requirements. [Result] The situation was normalized within four months of the extreme weather event, and that year (2018) PACCAR achieved the second highest Class 8 market share in its history and a record high market share of medium-duty in the US and Canada, and increased the contribution of truck manufacturing to revenue by 1%. Because management of weather related risks is part of PACCAR's standard operating costs, specific costs of increasing production capacity in the context of climate resiliency are difficult to calculate. However, based on PACCAR's experience with Hurricane Florence in 2018, a 0.06% (see response to c2.3a, Risk 1, "Description of response and explanation of costs calculation) cost ratio relative to PACCAR's Truck segment SG&A expenses is a reasonable proxy for the magnitude of potential costs. Multiplying PACCAR's 2021 Truck SG&A by 0.06% results in a \$160.7 k cost of management of weather related opportunities to increase production capacity ($0.06\% \times \$267,900,000 = \$160,740$).

Comment

none

C3. Business Strategy

C3.1

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

Row 1

Transition plan

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

Along with PACCAR's Annual Report, each year PACCAR's TCFD-CDP Report is made available on PACCAR.com containing updates to the essential elements of PACCAR's TCFD aligned climate transition plan: Governance, Strategy, Risk Management, Metrics and Targets including Science-based targets to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°. Quarterly Financial Results webcasts are held approximately three weeks following the end of each calendar quarter (in late April, July, October and January) as a regular mechanism by which feedback is collected. In addition to quarterly calls, PACCAR responds to requests for Individual investor inquiries made directly or via www.paccar.com/investors/investor-contacts/ and conducts more than 200 meetings per year with institutional shareholders. PACCAR hosts a conference on the morning of its quarterly earnings press release. This conference call is broadcast on the Internet and is available to listen and ask questions. As the vast majority of PACCAR's overall GHG emissions originate under scope 3 category 11 'use of sold products, topics covered may include continued R&D Investment in new products and services; new on-highway, vocational, and medium duty best-in-class fuel economy; PACCAR Powertrain emissions reduction and fuel economy; PACCAR zero emission product portfolio; localized production; emissions regulations; zero emissions powertrain outlook; battery electric product line-up including in 2021 DAF, Peterbilt, and Kenworth's progress on 7 truck models, 11 integrated charging stations; PACCAR global truck sales forecast – clean diesel % and zero emissions 2022 to 2035; Battery Electric Vehicle (BEV) product strategy 2021 to 2027; Hydrogen fuel cells and hydrogen internal combustion ; BEV after sales and service; Integrated Zero Emission Vehicle (ZEV) connected services; connected trucks and chargers; Advanced Driver Assistance Systems (ADAS) – vehicle control and safety; connected truck platforms – service scheduling, vehicle & driver performance, predictive maintenance tools; autonomous vehicle platform ; ISO 14001 certified production plants; PACCAR Parts – spare parts distribution optimization; PACCAR Finance – transition finance.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your transition plan (optional)

- PACCAR-investor-presentation.pdf
- pccar-tcfcd-report-february2022.pdf
- sasb-esg-combined-report-february2022.pdf
- paccar-2021-annual-report.pdf

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	Customized publicly available transition scenario	Company-wide	1.6°C – 2°C	[Parameters]EIA’s WB2C Sectoral Decarbonization Approach (SDA) absolute contraction method for “other industry” sectors applies to Scope 1 and 2 for PACCAR’s global factories, warehouses and other facilities emissions, while IEA’s B2DS SDA applies to PACCAR’s Scope 3 Product-Use emissions for heavy and medium duty vehicle sales in the US, Canada and the EU. [Assumptions] Product use climate change modelling inputs include sales weighted, tank to wheel emissions and payloads. The product use climate scenario is based on the assumptions for the low carbon transition pathway in the IEA 2017 publication “The Future of Trucks” including predictions of lower transport related energy demand due to increased logistical efficiency, transportation energy efficiency improvements and fuel switching emissions reductions due to a larger role for biofuels and renewables in commercial transport. The facility related climate scenario is based on Energy Technology Perspectives (ETP 2017) assumptions including the predicted share of electricity in the energy mix, carbon intensity of electricity, energy efficiency and best available technology opportunities, decreases in fossil fuel use and the carbon intensity due to fuel switching and the reduction of carbon intensity due to increased use of renewables. Product use analysis was conducted with online tools provided by Science Based Targets Initiative (SBTI) as well as spreadsheet and database analysis of PACCAR’s sales product mix and related emissions. The time horizons chosen include a baseline year of 2018 for Scope 1, 2 and 3 emissions, along with the IEA WB2C and B2DS trajectory through 2060. A medium term timeline of 2030 was selected to allow detailed modelling of both facility and product use climate scenarios over both the medium and long term. Key model inputs included tank to wheel greenhouse emissions for heavy duty vehicles PACCAR sold in the US, Canada and in the EU in 2018. Country specific and sales weighted payloads were applied to develop emissions intensity in units of grams of CO2 per vehicle kilometer. [Analytical Choices] EIA WB2C (well below 2 degrees C) and B2DS (beyond 2 degrees) climate scenarios were selected based on their applicability to PACCAR’s largest sources of Scope 1, 2 and 3 GHG emissions. The result of this detailed climate scenario analysis, PACCAR obtained approval for Science Based Targets of 25% for Scope 3 Use of Product between a baseline year of 2018 and target year of 2030.
Physical climate scenarios	Customized publicly available physical scenario	Company-wide	2.1°C - 3°C	Applicable physical climate scenarios are incorporated into supply chain, built assets, and operational parameters decisions on a site-by-site and project-by-project basis where physical risk to locations and supply chains require assessment and incorporation into risk control measures for identifying potential hazards to determine threats and develop mitigation measures. Mitigation measures are evaluated at appropriate management levels depending on established bottom-to-top capital and operational risk and budget control measures. [Parameters] The impacts vary by geographical location and project characteristics but generally involve identifying hazards associated with supply chain or operational interruptions. Physical risks that may be considered are increase concentrations of heat, cold, perception, drought, storm severity, flooding, and, etc. that may pose a hazard requiring evaluation. [Assumptions] Physical risks parameters are evaluated over short-, mid-, and long-term time frames on various models to simulate the impacts associated with different climate scenarios to identify potential hazards. [Analytical Choices] Modeling includes evaluating different baselines levels for a specific geographic boundary for projects, sites, and suppliers’ locations to apply various RCP scenarios – e.g., RCP 2.6 with low concentrations to RCP 4.5 as a moderate scenario in which emissions peak around 2040 and then decline vs. RCP 8.5 as an extreme baseline scenario in which emissions continue to rise with various overlay to evaluate physical risk parameters.

C3.2b

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

Row 1

Focal questions

How can the use of climate-related scenario analysis help PACCAR set science-based targets apply to PACCAR’s Scope 3 Use of product emissions? What can be learned by identifying and evaluating possible future developments as well as associated variables and data requirements to support decision-making? Finally, what future developments have the greatest ability to shape the future attainment of science-based targets?

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

PACCAR’s understanding of climate scenarios resulted in approved Science Based Targets (SBTs). As a result of this detailed climate scenario analysis, PACCAR developed and obtained approval for Science Based Targets of 25% reduction for Scope 3 Use of Product (gram CO2e/vkm) between a baseline year of 2018 and target year of 2030 while also increasing sectoral, regional, and operational understanding of achieving SBTs. [Sectoral Context] The product use climate scenario is based on the assumptions for the low carbon transition pathway in the IEA 2017 publication “The Future of Trucks” including predictions of lower transport related energy demand due to increased logistical efficiency, transportation energy efficiency improvements and fuel switching emissions reductions due to a larger role for biofuels and renewables in commercial transport sector. [Regional] EIA’s B2DS SDA applies to PACCAR’s Scope 3 Product-Use emissions for heavy and medium duty vehicle sales in the US, Canada and the European Union regions. Product use climate change modelling requires evaluating and identifying regional data inputs including sales weighted, tank to wheel emissions and payloads by regions and definitions for regulatory reporting , for example, the US EPA GHG Emission Model for the US and as applicable for Canada as well as the vehicle energy consumption calculation tool developed by the European Commission. Product use analysis was conducted with online tools provided by Science Based Targets Initiative (SBTI) as well as spreadsheet and database analysis of PACCAR’s sales product mix and related emissions. [Operational] As a result of scenario analysis, PACCAR has a broader understanding of the potential medium- and long-term trajectory of carbon intensity of both facility related and product use technology, energy supply, and the government’s role in the energy transition through 2060. For example, climate scenario predictions that the share of electricity in the energy mix is expected to increase by 27% and the carbon intensity of electricity is expected to decrease by 98% by 2060, provides PACCAR with confidence in allocating capital, and research and development funding over the short and medium term towards low carbon technologies. This includes PACCAR’s focus on electrification of heavy-duty vehicles and plans to participate in the roll-out of charging stations infrastructure for commercial vehicles is justified by a deeper understand of the predicted decarbonization of the electrical grid through 2060.

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	Evaluation in progress	PACCAR is evaluating the impact of climate related risks and opportunities to its products and services by tracking global emerging regulation of road freight vehicle greenhouse gas emissions, shifting customer preferences and expectations, and technological advances in truck design and logistics, and by collaborating with suppliers, customers and third parties with knowledge of emerging trends related to road freight. This evaluation process started several years ago, as regulation of greenhouse gas emissions from road freight was developing in the US and Canada, which are large markets for PACCAR. We expect evaluation to continue through 2030 as significant developments continue including the increasing ambitions surrounding net zero pledges and science based targets (SBTs). PACCAR gained approval for SBTs for the first time in 2021. PACCAR's Scope 3 product use SBT commits to reducing greenhouse gas emissions by 25% by 2030 from a 2018 baseline from the heavy duty vehicles sold in the US, Canada and the EU, as well as the medium duty vehicles sold in the US and Canada. The 2018 baseline emissions are 1,005 grams CO2e per vehicle kilometre on a well to wheel, sales weighted basis. On this basis, PACCAR's 2030 SBT target for product use is 754 gCO2/vkm. Ongoing evaluation of appropriate SBTs is also part of PACCAR's continuing evaluation of climate related risks and opportunities and the resulting strategic decisions including the scope and magnitude of R & D investment. As an example of PACCAR's collaborations with suppliers of cutting edge road freight technology, PACCAR recently announced a five-year supply agreement for battery power systems with Romeo Power, Inc. ("Romeo Power"), a leading battery technology company headquartered in Los Angeles, California. PACCAR will purchase Romeo Power's battery packs and battery management software for heavy-duty battery electric PACCAR's Kenworth Division and Toyota Motor North America collaboration on a project to develop 10 zero emissions Kenworth T680 trucks powered by Toyota hydrogen fuel cell electric powertrains. Kenworth, Peterbilt and DAF delivered battery-electric trucks to customers in 2021 and have 7 zero emissions vehicle models in production with a backlog of 100's of customer orders. PACCAR Parts launched turn-key electric vehicle charging solutions and sold over 100 chargers.
Supply chain and/or value chain	Evaluation in progress	PACCAR is evaluating the impact of climate related risks and opportunities to its supply chain by tracking global emerging regulation of road freight vehicle greenhouse gas emissions, shifting customer preferences and expectations, and technological advances in truck design and logistics, and by collaborating with suppliers, customers and third parties with knowledge of emerging trends related to road freight, and participation in trade associations such as The Truck and Engine Manufacturers Association in the US and Canada and ACEA in the EU. This evaluation process started several years ago, as regulation of greenhouse gas emissions from road freight was developing in the US and Canada. We expect evaluation to continue through 2030 as significant developments continue including the increasing ambitions surrounding net zero pledges and science based targets (SBTs). By continuing to evaluate climate risks and opportunities, PACCAR's supply chain strategic decisions regarding the focus and scale of research and development budgets and the scope of collaborations with suppliers can be fine tuned as development in road freight products and services evolve through 2030 and beyond. For example, PACCAR announced a collaboration with Faith Technologies and Schneider Electric to provide charging infrastructure solutions for customers who purchase industry-leading battery electric Kenworth and Peterbilt trucks in the United States and Canada. Kenworth and Peterbilt began taking customer orders for production model Kenworth K270E and the Peterbilt Model 220EV battery electric trucks. This supply chain collaboration will provide PACCAR with first hand insight into the complexities, risks and opportunities of electric vehicle infrastructure, which is essential for evaluation of medium term strategies to address emerging, climate related supply chain risks and opportunities.
Investment in R&D	Evaluation in progress	By continuing to evaluate climate related risks and opportunities, PACCAR's strategic decisions regarding the focus and scale of research and development budgets can be fine tuned as development in road freight products and services evolve through 2030 and beyond. PACCAR's evaluation process includes the tracking of global emerging regulation of road freight vehicle greenhouse gas emissions, shifting customer preferences and expectations, and technological advances in truck design and logistics, and collaborating with suppliers, customers and third parties with knowledge of emerging trends related to road freight, and participation in trade associations such as The Truck and Engine Manufacturers Association in the US and Canada and ACEA in the EU. This evaluation process started several years ago, as regulation of greenhouse gas emissions from road freight was developing in the US and Canada. We expect evaluation to continue through 2030 as significant developments continue including the increasing ambitions surrounding net zero pledges and science based targets (SBTs). For example in 2021, PACCAR spent \$324 million on research and development spending majority of which was on climate-related advanced vehicle technology research and development, and collaborations including a multi-year collaboration with supplier, TransPower, to develop and commercialize zero and near-zero emissions trucks. Phase I featured Kenworth's CNG range-extended plug-in hybrid electric trucks developed under the SCAQMD/DOE ZECT 2 program, as well as Peterbilt/TransPower battery design for increased capacity at the same system weight to increase electric range. This collaboration is part of PACCAR's process for evaluating climate related risks and opportunities by gaining first hand knowledge of the cutting edge road freight technology and market factors such as logistics and customer preferences, and results in fine tuning of medium term strategies for R&D spending.
Operations	Evaluation in progress	PACCAR's evaluation process for operational investment strategy development includes the evaluation processes related to new product develop described in "Products and Services" row of this response, as well as supply chain logistics and resiliency, and developments in factory automation. Geographic considerations are also part of PACCAR's evaluation process for operational investments, including the siting and locations of factories, warehousing, and options for supply chain logistics flexibility. We expect the operational strategy evaluation process to continue through 2030, as significant developments continue in product development, stakeholder expectations and the supply chain impacts of climate change including extreme weather events and water scarcity develop. PACCAR invested \$512 million in capital in 2021 and \$7.3 billion in the last decade in new and expanded manufacturing and distribution facilities, as well the factory tooling for advanced new vehicle models, and innovative technologies such as advanced powertrains, zero emissions vehicles, autonomous driving and connected services. Future capital budget decisions will depend on PACCAR's process for ongoing evaluation of climate related risks and opportunities as outlined above. In addition in 2021, PACCAR developed science based greenhouse gas emissions reduction targets of 35% in tonnes of CO2 on an absolute basis for global facilities between 2018 and 2030. The setting of facility related greenhouse gas emissions reduction targets, and the resulting tracking and disclosure of results are part of PACCAR's evaluation process for future strategies for operations including first-hand knowledge and experience with the carbon intensity of location and market based electric grids and suppliers, as well as renewable energy considerations such as PACCAR recent installation of solar panels on our new PACCAR Parts facility in Las Vegas, Nevada.

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	[Situation] Product related risks and opportunities of regulation of greenhouse gas emissions and shifting customer preferences for compliant, low emissions, fuel-efficient commercial vehicles are significant factors in revenue planning over short, medium and long-term timelines. As an example, PACCAR is subject to EPA's Heavy Duty Vehicle and Engine Greenhouse Gas (GHG) regulatory program, as well as Environment and Climate Change Canada's (ECCC) regulations for engines and vehicles produced by PACCAR Engine Company, and PACCAR divisions: Kenworth and Peterbilt. The U.S. regulations are found in 40 CFR 1036 for engines and 40 CFR 1037 for vehicles. Product level regulation has influenced annual revenue planning. [Task] To meet revenue projections PACCAR must develop, produce, and sell compliant heavy-duty vehicles in the US and Canada that meet or exceed customer expectations for quality and operational efficiency to retain or grow revenue, market share and reduce environmental impact. [Action] PACCAR spent \$324 million mostly on advanced vehicle technology research and development in 2021 and launched many new products that offer better fuel economy and lower greenhouse gas emissions. [Result] As a result in 2020 and 2021, PACCAR created 839,578 tonnes of CO2 credits by voluntarily surpassing the applicable heavy-duty vehicle greenhouse gas emissions standards in the US and Canada. PACCAR also retired 411,195 tonnes of CO2 credits earned in earlier years as they were not needed to meet regulatory requirements of vehicles sold in the US and Canada.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric

Other, please specify (Investment in Research and Development (R&D))

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)

70

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

70

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

60

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world

An overwhelming majority of PACCAR's GHG Emissions is Scope 3 - product usage. As such, PACCAR's historical, current and future annual R&D and capital investments continues to be significant investment into more efficient, cleaner, and safer products vehicle model year after vehicle model year. Research and Development is disclosed annually at PACCAR.com and aligns approximately to a range of 60-80% spend on climate related activities - e.g., fuel efficiency, battery electric vehicles and zero emission vehicle models and more efficient production facilities and technology. The ratio may change in the future depending on different taxonomies under development standardizing classifications for assigning capital aligned to climate mitigation and adaptation activities.

C4. Targets and performance

C4.1

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

Absolute target

Intensity target

C4.1a

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

Target reference number

Abs 1

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Base year

2018

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

121123

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

171594

Base year Scope 3 emissions covered by target (metric tons CO2e)

<Not Applicable>

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

292717

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

100

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

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

<Not Applicable>

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

100

Target year

2030

Targeted reduction from base year (%)

35

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

190266.05

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

123990

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

154791

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

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

278781

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

13.6026069060365

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

Well-below 2°C aligned

Please explain target coverage and identify any exclusions

PACCAR achieved approval of science based targets (SBT) for Scopes 1, 2 and 3 in 2021. The Scope 1 and 2 SBT is a 35% absolute reduction of CO2 emissions from PACCAR's global facilities between a baseline year of 2018 and a target year of 2030 and is based on SBTi's "other industry SDA (sectoral decarbonisation approach)" using the absolute contraction method for well below 2°C.

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

Progress towards the target GHG emissions remains a steady focus year-on-year. PACCAR is an environmental leader in its global factory operations, with over 80 percent of PACCAR's manufacturing facilities achieving zero-waste-to-landfill and all manufacturing locations being ISO 14001 certified providing a focus of continuously looking for ways to reduce waste, reuse materials, conserve energy and reduce the environmental impact and achieve associated cost savings and GHG emission reductions.

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

<Not Applicable>

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

2021

Target coverage

Country/region

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 11: Use of sold products

Intensity metric

Other, please specify (Metric tonnes CO2 per vehicle kilometer (vkm))

Base year

2018

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

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

0.001005

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

0.001005

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

<Not Applicable>

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

81

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

81

Target year

2030

Targeted reduction from base year (%)

25

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

0.00075375

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

-37

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

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

0.000996

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

0.000996

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

3.58208955223885

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

Other, please specify (Below 2 degrees C)

Please explain target coverage and identify any exclusions

Scope 3 science based target is a 25% reduction in product use greenhouse gas emissions in grams of CO2 emissions per vehicle kilometre, well to wheel, from the heavy duty vehicles PACCAR sells in the US, Canada and the EU, and the medium duty vehicles PACCAR sells in the US and Canada between a baseline year of 2018 and a target year of 2030. This science based target is a medium term target for product use emissions based on the Sectoral Decarbonization Approach Transport Tool for below two degrees Celsius (B2DS). Note, SBTi does not currently classify the temperature ambition of Scope 3 approved targets.

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

Emissions intensity of PACCAR's heavy duty vehicle sold within the US, Canada, and the EU decreased between 2019 and 2020 due to PACCAR's progress in reducing vehicle greenhouse gas emissions. The reporting year for Int 1 is 2020, as the complete GHG emissions data for vehicle model year 2021 is not ready prior to CDP's July disclosure deadline. Plans for achieving this target are underway. PACCAR is a leader in the development of alternative powertrains, including battery-electric, hydrogen fuel cell, hybrid and natural gas. Kenworth, Peterbilt and DAF began production of zero emissions trucks in 2021. DAF's new XF, XG and XG+ conventional trucks improve fuel efficiency by up to 10 percent and the new Kenworth T680 and Peterbilt 579 models deliver up to a seven percent fuel efficiency improvement and reduced CO2 emissions.

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

<Not Applicable>

Target reference number

Int 2

Year target was set

2019

Target coverage

Country/region

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 11: Use of sold products

Intensity metric

Other, please specify (Metric tonnes CO2 per ton-mile)

Base year

2019

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

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

0.00014365

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

0.00014365

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

<Not Applicable>

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

<Not Applicable>

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

80

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

80

Target year

2021

Targeted reduction from base year (%)

12

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

0.000126412

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

-37

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

<Not Applicable>

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

0.00013923

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

0.00013923

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

25.6410256410256

Target status in reporting year

Replaced

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

<Not Applicable>

Please explain target coverage and identify any exclusions

For 2021 reporting year, the science-based target (Int 1) replaced this short term target (Int 2). PACCAR achieved approval of science based targets for Scopes 1, 2 and 3. The Scope 3 science based target (Int 1) is a 25% reduction in grams of CO2 emissions per vehicle kilometre from PACCAR's vehicles sold in the US, Canada and the EU between a baseline year of 2018 and a target year of 2030. The science based target is a medium term target for product use based on the Sectoral Decarbonization Approach Transport Tool.

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

<Not Applicable>

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

<Not Applicable>

C4.2

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

No other climate-related targets

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	11	
To be implemented*	6	4342
Implementation commenced*	10	302
Implemented*	10	97
Not to be implemented	3	

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 (Combination of Heating, Ventilation, Air Conditioning (HVAC), Roof, Insulation, Hot Water, Draught Proofing)
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

14

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

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

236320

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

2966697

Payback period

11-15 years

Estimated lifetime of the initiative

11-15 years

Comment

none

Initiative category & Initiative type

Energy efficiency in production processes	Other, please specify (Combination of Machine Equipment Replacement, Smart Control Systems, Automation, Data management upgrades)
---	---

Estimated annual CO2e savings (metric tonnes CO2e)

82

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

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

663436

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

1990307

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

none

Initiative category & Initiative type

Transportation	Other, please specify (Fleet vehicles initiatives)
----------------	--

Estimated annual CO2e savings (metric tonnes CO2e)

1

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

Scope 1

Voluntary/Mandatory

Voluntary

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

8584

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

40150

Payback period

4-10 years

Estimated lifetime of the initiative

3-5 years

Comment

none

C4.3c

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

Method	Comment
Internal incentives/recognition programs	PACCAR's six sigma and EcoDesign programs include annual monetary awards and recognition for best environmental projects including energy and emissions reduction projects.
Employee engagement	PACCAR's manufacturing locations are ISO14001 certified and include continuous environmental improvement including reducing energy use and emissions.
Financial optimization calculations	Energy and greenhouse gas reduction projects are included in PACCAR's global capital budget review process.
Compliance with regulatory requirements/standards	PACCAR's global capital budget process fast tracks regulatory compliance projects including emissions reductions and energy efficiency requirements.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Product or service

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

Other, please specify (Estimating and Reporting the Comparative Emissions Impacts of Products (WRI))

Type of product(s) or service(s)

Road	Other, please specify (Biofuel capable engines)
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Description of product(s) or service(s)

PACCAR's MX 13 and MX 11 engines are certified to use B10/B20/B30 and XTL biofuels in Europe and B20 in the U.S. including renewable fuels. Biofuel capable unit sales represents 49% of PACCAR's total global trucks delivered.

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

No

Methodology used to calculate avoided emissions

<Not Applicable>

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

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

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

49

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

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

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

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

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

(C5.2) Provide your base year and base year emissions.**Scope 1****Base year start**

January 1 2018

Base year end

December 31 2018

Base year emissions (metric tons CO2e)

121123

Comment

None

Scope 2 (location-based)**Base year start**

January 1 2018

Base year end

December 31 2018

Base year emissions (metric tons CO2e)

171594

Comment

None

Scope 2 (market-based)**Base year start**

January 1 2018

Base year end

December 31 2018

Base year emissions (metric tons CO2e)

178892

Comment

None

Scope 3 category 1: Purchased goods and services**Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment****Scope 3 category 2: Capital goods****Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment****Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)****Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment****Scope 3 category 4: Upstream transportation and distribution****Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment****Scope 3 category 5: Waste generated in operations****Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment**

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

January 1 2018

Base year end

December 31 2018

Base year emissions (metric tons CO2e)

77018744

Comment

The scope 3 Use of product emissions are based on lifetime emissions for vehicles sold in 2018.

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

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

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

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

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

123990

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

None

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

None

C6.3

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

Reporting year

Scope 2, location-based

154791

Scope 2, market-based (if applicable)

169028

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

None

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

CO2 emission related to CH4 and N2O from some fuel combustion and electricity purchased.

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

N2O and CH4 emissions amount to less than a 1% change in PACCAR's overall emissions.

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

0

Explain how you estimated the percentage of emissions this excluded source represents

Represents - Most of the emission factors PACCAR uses are CO2e which include CH4 and N2O emissions. Those locations (for electricity emission factors) or fuels where we have not used CO2e emission factors have CO2e emission factors that are less than 1% larger than the emission factor used, or represent far less than 1% of PACCAR's overall GHG emissions.

Source

CO2 emissions from various small offices or leased facilities where energy usage data is not readily available.

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

Based on the square footage of these small offices and leased facilities, and the average energy intensity of similar facilities operated by PACCAR, the consolidated CO2 emissions are less than 1% of PACCAR's overall CO2 emissions.

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

1

Explain how you estimated the percentage of emissions this excluded source represents

Miscellaneous other facilities operated by PACCAR that are not currently individually tracked but estimated using intensity factor per footprint (SF).

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

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

1348347

Emissions calculation methodology

Average product method

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

0

Please explain

Calculations are based on the number of new truck deliveries in 2021 and internal life cycle assessment (LCA) of material components of heavy-duty trucks. The internal LCA was compared with industry-wide analysis by the Argonne National Laboratory to verify data quality. Component emission factors are based on published values including those from the IPCC (2019 Refinements), UNFCCC and ICLEI. The calculated CO₂e emissions from purchased goods and services are much less than 5% of overall Scope 3 emissions.

Capital goods

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

370700

Emissions calculation methodology

Spend-based method

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

0

Please explain

The 2021 spend for property plant and equipment including equipment acquired for operating leases less asset disposal proceeds was multiplied by the appropriate emission factor for supply chain emissions from DEFRA Environmental Reporting Guidelines March 2019. The calculated capital goods related CO₂e emissions are much less than 5% of overall Scope 3 emissions.

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

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

23971

Emissions calculation methodology

Fuel-based method

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

0

Please explain

The IPCC default emissions factors for upstream emissions from natural gas, diesel, propane, butane, gasoline and jet fuel were applied to PACCAR's 2021 fuel usage. Global emission factors for electricity transmission and distribution losses were obtained from the World Bank online data tables and multiplied by PACCAR's location specific electricity usage. The calculated upstream fuel and energy CO₂e emissions are much less than 5% of overall Scope 3 emissions.

Upstream transportation and distribution

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

2054735

Emissions calculation methodology

Hybrid method

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

54

Please explain

Calculation based on PACCAR's global new truck deliveries in 2021, actual logistics miles traveled in the North America, PACCAR's 2020 EPA SmartWay composite freight emission factor, North American spend for ocean and air freight and DEFRA's March 2019 Environmental Reporting Guidelines emission factors for ocean and air freight. Global emissions are extrapolated based on proportional new truck deliveries and updated global road freight CO₂ emission factors. The calculated upstream transportation and distribution CO₂ emissions are much less than 5% of overall Scope 3 emissions which is the threshold considered to be relevant.

Waste generated in operations

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

239

Emissions calculation methodology

Supplier-specific method

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

100

Please explain

PACCAR recycles or recovers energy from most of its waste with most manufacturing facilities achieving Zero Waste to Landfill status. CO2 emissions from waste are calculated based on internal tracking of manufacturing waste and EPA's warm model for emissions for waste disposed in a landfill. Emissions credits due to recycling and energy recovery are not reported, nor used in the calculation of waste related emissions, as part of a conservative approach to determining PACCAR's greenhouse gas emissions inventory. The calculated CO2 emissions from waste generated from operations are much less than 5% of overall Scope 3 emissions which is the threshold considered to be relevant.

Business travel

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

3454

Emissions calculation methodology

Supplier-specific method

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

100

Please explain

Air travel CO2 emissions are provided by PACCAR's global travel agent. Business travel in company owned and leased vehicles is included in Scope 1 emissions. The calculated CO2 emissions from business air travel are provided by our travel supplier and are much less than 5% of overall Scope 3 emissions which is the threshold considered to be relevant.

Employee commuting

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

46085

Emissions calculation methodology

Average data method

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

0

Please explain

Calculated based on CDP data for industrial and auto manufacturers multiplied by the current number of PACCAR's worldwide full time employees. Sensitivity analysis of industry specific emission factors using high, low and average values does not change the finding that CO2e emissions from employee commuting does not exceed the 5% relevancy threshold.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

CO2e emissions from leased assets that are operated by PACCAR are included in Scope 1 and 2 emissions reported

Downstream transportation and distribution

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

287699

Emissions calculation methodology

Hybrid method

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

60

Please explain

Calculation is based on PACCAR's global new truck deliveries in 2021, outbound finished truck delivery miles in North America, and PACCAR's 2020 EPA SmartWay composite freight emission factor. Global emissions are extrapolated based on proportional new truck deliveries and updated global road freight CO₂ emission factors. The calculated CO₂ emissions for downstream transportation and distribution are less than 5% of overall Scope 3 emissions, which is the threshold considered relevant.

Processing of sold products

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

83846

Emissions calculation methodology

Average data method

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

0

Please explain

PACCAR's products are processed further by adding trailers and equipment, or mounting winches. Estimating downstream emissions related to processing of sold products is based on the new truck deliveries multiplied by an emission factor using internal emissions intensity for similar processes. The calculated CO₂ emissions downstream processing of sold products are much less than 5% of overall Scope 3 emissions.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

72583844

Emissions calculation methodology

Hybrid method

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

0

Please explain

Calculations are based on PACCAR global sales mix for new truck deliveries in 2021 and PACCAR's weighted CO₂ emissions intensity for heavy and medium duty vehicles sold in the US and Canada, and heavy duty vehicles sold in the EU. Vehicle emissions are as reported to US EPA, Environment and Climate Change Canada (ECCC), and the EU Environmental Agency (EEA), and other geographically specific emission factors, as well as regionally appropriate average vehicle life cycle kilometers and payloads. Product use emissions are based on CO₂ emission factors for heavy and medium duty vehicle specific to PACCAR's sales mix by model and region to the extent available. Regionally specific life cycle miles or kilometers, as well as payloads are also used.

End of life treatment of sold products

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO₂e)

12053

Emissions calculation methodology

Waste-type-specific method

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

0

Please explain

Calculations are based on the 2021 new truck deliveries and life cycle assessment modeling of recyclable content. Emission factors for non-recyclable plastics, rubber and miscellaneous materials such as textiles are based on EPA's WARM waste emissions model. The calculated CO₂e emissions for the end of life treatment of product sold are much less than 5% of Scope 3 emissions and are not considered relevant.

Downstream leased assets

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

861

Emissions calculation methodology

Average data method

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

0

Please explain

CO2 emissions for downstream leased assets is limited to the estimated emissions from downstream leased buildings which we own but do not operate based on the emissions intensity factor for each type of building use. The calculated CO2e emissions for the downstream leased assets are much less than 5% of Scope 3 emissions and are not considered relevant. Downstream CO2 emissions from truck leasing is included in Use of Sold Products above

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Company owned dealerships are included in Scope 1 and 2 emissions. All other dealerships are independently owned and operated.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Investments are related to financing of PACCAR branded truck purchases and are included in the new truck delivery estimates of "Use of Sold Product" category.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other upstream CO2 emissions have been identified.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other upstream CO2 emissions have been identified.

C6.7

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

No

C6.10

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

Intensity figure

0.0000108

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

278781

Metric denominator

unit total revenue

Metric denominator: Unit total

25817200000

Scope 2 figure used

Location-based

% change from previous year

14

Direction of change

Decreased

Reason for change

PACCAR's 2021 GHG emissions per unit of revenue decreased by 14% due to a 26% increase in revenue and continued effort to lower Scope 1 and 2 emissions.

Intensity figure

1.7

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

278781

Metric denominator

Other, please specify (Vehicle delivered)

Metric denominator: Unit total

162700

Scope 2 figure used

Location-based

% change from previous year

11

Direction of change

Decreased

Reason for change

PACCAR's 2021 greenhouse gas emissions per unit of new truck delivery decreased by 11% due to a 22% increase in truck deliveries and diligence to manage Scope 1 and 2 Emissions.

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	122073	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	1917	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Australia	2851
Belgium	14139
Canada	5826
Mexico	4814
Netherlands	31232
United States of America	59695
United Kingdom of Great Britain and Northern Ireland	2261
Other, please specify (Rest of the World)	3172

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Manufacturing	106930
Test Facilities	8051
Warehouses	1842
Other facilities including office buildings, used truck lots and PacLease facilities.	7167

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	106930	<Not Applicable>	Includes manufacturing only. Test facilities, office buildings, warehouses, and other facilities are excluded.
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Australia	5452	5452
Belgium	12358	9786
Canada	35	1719
Mexico	22017	22017
Netherlands	42823	45548
United States of America	68572	79506
United Kingdom of Great Britain and Northern Ireland	1987	3253
Other, please specify (Rest of World)	1547	1747

C7.6

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

By activity

C7.6c

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Manufacturing	144351	156504
Test Facilities	2456	2976
Warehouses	2691	3476
Other facilities including office buildings and used truck lots and PacLease facilities.	5293	6072

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	144351	156504	Includes manufacturing only. Test facilities, office buildings, warehouses, and other facilities are excluded.
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-TO7.8

(C-T07.8) Provide primary intensity metrics that are appropriate to your indirect emissions in Scope 3 Category 11: Use of sold products from transport.

Activity

Heavy Duty Vehicles (HDV)

Emissions intensity figure

0.000043772

Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO2e

72583844

Metric denominator

t.km

Metric denominator: Unit total

113890000000

% change from previous year

2.7

Vehicle unit sales in reporting year

162700

Vehicle lifetime in years

10

Annual distance in km or miles (unit specified by column 4)

70000

Load factor

The average payload for heavy and medium duty vehicles PACCAR sold in the US and Canada was 14.96 tons in 2021 vs 13.6 tons in 2020.

Please explain the changes, and relevant standards/methodologies used

The year-over-year change in total lifetime product use CO2 emissions intensity was an increase of 34% between 2020 and 2021 and an increase of 2.7% when normalized for total vehicles sold by PACCAR due to a 8.1% increase in sales weighted, tonne-mile emissions intensity in the US and Canada, and more overall vehicles sold. Calculations are based on PACCAR global sales mix for new trucks deliveries in 2021 and PACCAR's weighted CO2 emissions intensity for heavy and medium duty vehicles sold in the US and Canada, and heavy duty vehicles sold in the EU. Vehicle emissions are as reported to US EPA, Environment and Climate Change Canada (ECCC), and the EU Environmental Agency (EEA), and other geographically specific emission factors, as well as regionally appropriate average vehicle life cycle kilometers and payloads.

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	21031	Decreased	8.6	PACCAR's consumption of renewable energy decreased in 2021. PACCAR decreased purchases of renewable energy in 2021 by 13,308 MWhs compared with 2020. However, PACCAR's reported overall emissions for previous years did not subtract out the amount of renewable energy used and therefore year-over-year comparisons of reported emissions will not be impacted by the reduction of renewable energy use.
Other emissions reduction activities	97	Decreased	0.04	Paccar's production increased 22% and Energy Usage 11%, but overall Scope 1 and 2 emissions only increased 9% as work continues to de-couple GHG emissions from energy usage for production.
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output		<Not Applicable >		
Change in methodology		<Not Applicable >		
Change in boundary		<Not Applicable >		
Change in physical operating conditions		<Not Applicable >		
Unidentified		<Not Applicable >		
Other		<Not Applicable >		

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	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)	LHV (lower heating value)	0	570509	570509
Consumption of purchased or acquired electricity	<Not Applicable>	56583	351032	407615
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>	56583	921541	978124

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable

Other biomass

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable

Coal

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable

Oil

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Not applicable

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

463307

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

None

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

Heating value

LHV

Total fuel MWh consumed by the organization

107202

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

None

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

507509

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

None

C8.2e

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

Sourcing method

Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier

Electricity

Low-carbon technology type

Wind

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

Contract

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

56405

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

United States of America

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

1905

Comment

Most of PACCAR's 56,583 MWh of renewable electricity consumption in 2021 was in the United States. Only 178 MWh of the total 56,583 MWh of renewable electricity consumed by PACCAR in 2021 is from outside of the United States. Due to the lack of CDP acceptable certifications, low-carbon emissions factors are not used by PACCAR in CDP reporting of greenhouse gas emissions. The location specific emission factor for electricity in the United States is used for calculating CO2 emissions for CDP reporting except for the 178 MWh's of green energy consumed in Germany. The country specific emission factor for Germany is used for the 178 MWh's of green energy consumed in Germany. Using location specific emission factors for renewable energy used results in conservative estimates of greenhouse gas emissions.

C8.2g

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

Country/area

Australia

Consumption of electricity (MWh)

5680

Consumption of heat, steam, and cooling (MWh)

0

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

5680

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Belgium

Consumption of electricity (MWh)

52145

Consumption of heat, steam, and cooling (MWh)

0

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

52145

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Canada

Consumption of electricity (MWh)

17302

Consumption of heat, steam, and cooling (MWh)

0

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

17302

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Mexico

Consumption of electricity (MWh)

44042

Consumption of heat, steam, and cooling (MWh)

0

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

44042

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Netherlands

Consumption of electricity (MWh)

82037

Consumption of heat, steam, and cooling (MWh)

0

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

82037

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United States of America

Consumption of electricity (MWh)

185780

Consumption of heat, steam, and cooling (MWh)

0

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

185780

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)

9360

Consumption of heat, steam, and cooling (MWh)

0

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

9360

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Other, please specify (Rest of the world)

Consumption of electricity (MWh)

10403

Consumption of heat, steam, and cooling (MWh)

0

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

10403

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

C-T08.5

(C-TO8.5) Provide any efficiency metrics that are appropriate for your organization's transport products and/or services.

Activity

Heavy Duty Vehicles (HDV)

Metric figure

1.7

Metric numerator

tCO2e

Metric denominator

Production: Vehicle

Metric numerator: Unit total

278781

Metric denominator: Unit total

162700

% change from previous year

-11

Please explain

PACCAR's 2021 GHG emissions per unit of new truck delivery decreased by 11% due to a 22% increase in truck deliveries combined with keeping Scope 1 and Scope 2 GHG emissions in check year-on-year in manufacturing locations and spare part distribution warehouses.

C9. Additional metrics

C9.1

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

C-TO9.3/C-TS9.3

(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.

Activity

Heavy Duty Vehicles (HDV)

Metric

Sales

Technology

Vehicle using bio-fuel

Metric figure

49

Metric unit

Other, please specify (% of units delivered)

Explanation

PACCAR's MX 13 and MX 11 engines are certified to use B10/B20/B30 and XTL biofuels in Europe and B20 in the U.S. including renewable fuels. Biofuel capable unit sales represents 49% of PACCAR's total global trucks delivered.

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	none

C-TO9.6a/C-TS9.6a

(C-TO9.6a/C-TS9.6a) Provide details of your organization's investments in low-carbon R&D for transport-related activities over the last three years.

Activity

Heavy Duty Vehicles (HDV)

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

61-80%

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

324000000

Comment

None

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

Limited assurance

Attach the statement

PACCAR 2021 CDP Audit - Letter for upload_07.22.22_FINAL.pdf

Page/ section reference

Pages 1-3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

78

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

Limited assurance

Attach the statement

PACCAR 2021 CDP Audit - Letter for upload_07.22.22_FINAL.pdf

Page/ section reference

Pages 1-3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

95

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: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

PACCAR 2021 CDP Audit - Letter for upload_07.22.22_FINAL.pdf

Page/section reference

Pages 1-3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Use of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance

Limited assurance

Attach the statement

Page/section reference

Not applicable

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

81

C10.2

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

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

C11. Carbon pricing

C11.1

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

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

EU ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

EU ETS

% of Scope 1 emissions covered by the ETS

7

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

3707

Allowances purchased

12979

Verified Scope 1 emissions in metric tons CO2e

18691

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Facilities we own and operate

Comment

None

C11.1d

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

The strategy is to reduce greenhouse gas emissions by reducing consumption of energy, and purchasing credits, if needed, or if the market circumstances are profitable to do so. Currently, energy conservation is pursued using energy management systems and the systematic replacement of process equipment with higher energy efficient models. In the past, for example, in 2020, PACCAR's DAF Eindhoven facility used previously banked CO2 emissions credits to cover the 2,808 tonne difference between allowed and actual CO2 emissions. In 2021, DAF Eindhoven facility has multiple building efficiency initiatives underway while continuing to complete energy assessments of all facilities. In the future, the storage of unused allowances will be used throughout the EU-ETS 2021-2030 trading period.

C11.2

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

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Transport

Project identification

PACCAR is subject to EPA's Heavy Duty Vehicle and Engine Greenhouse Gas (GHG) regulatory program, as well as Environment and Climate Change Canada's (ECCC) regulations for engines and vehicles produced by PACCAR Engine Company, and PACCAR divisions: Kenworth and Peterbilt. The U.S. regulations are found in 40 CFR 1036 for engines and 40 CFR 1037 for vehicles. PACCAR generates credits by surpassing the applicable standards in any given model year. In 2021, PACCAR created no new CO2 emissions credits in the US and Canada. In addition, PACCAR retired 604,007 tonnes of product use CO2 credits in 2021 as they were in excess of what was needed for regulatory compliance.

Verified to which standard

Other, please specify ((40 CFR 1036 and 40 CFR 1037))

Number of credits (metric tonnes CO2e)

0

Number of credits (metric tonnes CO2e): Risk adjusted volume

0

Credits cancelled

No

Purpose, e.g. compliance

Voluntary Offsetting

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

Drive energy efficiency

GHG Scope

Scope 1

Scope 2

Scope 3

Application

Capital budget allocation process.

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

1

Variance of price(s) used

One-for-one based on tonnes of CO2 emissions associated with capital investments, including increases and decreases in CO2 emissions.

Type of internal carbon price

Shadow price

Impact & implication

PACCAR's internal capital budgeting process includes project specific estimates of the resulting changes to CO2 emissions for both facilities and product-use projects as part of the approval process. These changes to CO2 emissions result in a second return on investment using the CO2 emissions changes as the shadow price, which can be for either decreasing or increasing emissions to better inform decision making in the context of CO2 emissions reduction goals. PACCAR's internal approval return on investment (ROI) threshold is higher than many energy efficiencies related projects can achieve, allowing the second carbon price return to help otherwise marginal investment, by PACCAR's standards, gain approval. In the past, for example, in 2020, PACCAR approved capital funding to install solar panels at the new PACCAR Parts Distribution Center in Las Vegas Nevada, which reduced greenhouse gas emissions by 273 tonnes per year even though the project offered a low ROI. In 2021, DAF's Eindhoven operations has two solar panel projects under investigation. Embedding a shadow price for carbon within PACCAR's capital budgeting process provides information and visibility to project specific carbon impacts to the capital budget teams at our divisions. This expands climate change awareness at both the project and facility levels, which is essential for generating facility specific emissions reductions initiatives year after year.

C12. Engagement

C12.1

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

- Yes, our suppliers
- Yes, our customers/clients
- Yes, other partners in the value chain

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

8.3

% total procurement spend (direct and indirect)

81

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

99

Rationale for the coverage of your engagement

PACCAR is driven to provide its customers with the highest quality truck with the lowest lifetime operating costs especially related to fuel economy, safety, reduced emissions and next generation transport technology. PACCAR challenges all suppliers to improve vehicle fuel efficiency and reduce greenhouse gas emissions using cutting-edge technology. Active collaboration with the top 100 suppliers, which accounts for 81% of PACCAR's total spend, is strategically focused on those suppliers who can best contribute to vehicle fuel economy improvements and reduced emissions.

Impact of engagement, including measures of success

Success is measured by the improvement in fuel economy and reduction of greenhouse gas emissions from PACCAR's trucks. For example, successful engagement with suppliers, customer and partners resulted in PACCAR's success in increasing fuel efficiency in trucks sold in North America by 7% and 10% in Europe in 2021. As an example of supplier collaboration and innovation, PACCAR recently announced a five-year supply agreement for battery power systems with Romeo Power, Inc. ("Romeo Power"), a leading battery technology company headquartered in Los Angeles, California. PACCAR will purchase Romeo Power's battery packs and battery management software for heavy-duty battery electric Peterbilt 579EV vehicles and Peterbilt 520EV refuse trucks in North America. PACCAR has become a minority shareholder in Romeo Power as part of the strategic alliance. Peterbilt zero emissions trucks featuring Romeo Power's battery packs launched in April 2021.

Comment

None

C12.1b

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

Type of engagement & Details of engagement

Education/information sharing	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

100

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

PACCAR provides information, training and recognition to all customers to optimize fuel economy and reduce greenhouse gas emissions of PACCAR's nameplate DAF, Peterbilt and Kenworth trucks because the driver's skills in using PACCAR advanced vehicles can reduce transport related greenhouse gas emissions significantly. For example, the delivery of a new DAF LF, CF or XF always comes with a comprehensive explanation of the vehicle's features. After everything has been explained and the keys handed over, the driver also receives a voucher for a DAF EcoDrive+ Training program. This voucher is valid for six months and the driver can use it to participate in an intensive 1-on-1 training session in his or her own truck. The training is provided by an instructor trained and certified by DAF. PACCAR offers all customers driver training through instructional videos, hands-on classroom Driver Academy and in-vehicle driver information centers to reduce fuel consumption and CO2 emissions, improve vehicle reliability and driver productivity, and enhance the health and safety of the driver and the environment. For example, at the start of the DAF EcoDrive training the driver is challenged to show his or her actual driving skills. During the session, time, fuel consumption and DAF Driver Performance Assistant scores are monitored. In the second stage of training, the driver receives all the theoretical information on how to make optimum use of all the DAF truck systems that enable him or her to drive as economically as possible. The final part of the DAF Driver Training is a coached driving session, during which all theoretical information is put into practice and new scores are monitored to show the improvement, which is a measure of success for each driver. Also, the DAF, Kenworth and Peterbilt Driver Performance Assistant offers interactive in-dash coaching for customers to continue improvement in driver skills on-the-job, and to provide real-time truck and fleet information on truck systems that can improve fuel economy including tire pressure, aerodynamic settings of cab roof spoilers, fuel efficient shifting, braking, and predictive cruise control.

Impact of engagement, including measures of success

The skills of drivers of PACCAR's DAF, Kenworth and Peterbilt trucks are key to achieving the highest possible fuel efficiency and reduction of greenhouse gas emissions. The impact of providing driver training to all PACCAR customers in the use of PACCAR's advance vehicles is improved vehicle reliability, increased driver productivity, enhanced driver safety, better fuel economy, reduced operating expense, and reduced vehicle emissions including greenhouse gas emissions. The measure of success is the fuel efficiency increase and operational safety improvement for our customers. For example, the EcoDrive+ Training programme generally takes about one day to complete and involves both theory and practical training. "Our drivers who have taken the training drive at least 10% more efficiently. That's an impressive return on investment," says Marek Gunia, Transport Director at BATIM in Poland. "I've also noticed a significant decrease in the damages of my vehicles. EcoDrive+ improves the drivers skills and their knowledge of the various vehicle systems. This makes my drivers even better professionals and noticeably happier in their work. Customer surveys track customer satisfaction including training impacts. One Kenworth customer recently noted, "The driver assist provides feedback to our drivers wherever they go, so we don't have to ride along with them to evaluate their driving. It offers them guidance in situations as they happen. We think that's a much more effective way for drivers to learn how to improve their driving. It can advise them when to shift to get optimum fuel economy. The performance assist coupled with the Kenworth T680's aerodynamics and fuel efficiency of the PACCAR MX-engine, have all contributed to the T680 delivering an average 1.2 mpg improvement in fuel economy over the other trucks in our fleet. That's a 21 percent improvement in fuel economy performance." In 2021, Kenworth and Peterbilt new trucks are seeing up to a 7% fuel efficiency improvement and up to 10% in Europe with DAF's new line of trucks.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

PACCAR pursues multi-stakeholder opportunities, including not only suppliers and customers, but also other value chain partners such as government agencies and universities, for collaboration to both expedite and enhance advances in road freight including vehicle electrification, improved fuel economy, zero-emissions, autonomous and advanced driver assistance technologies. As an example, in 2020 Kenworth, a division of PACCAR, continued its collaboration with the Department of Energy, Mississippi State University, the National Renewable Energy Laboratory, as well as Eaton, AVL and UPS to develop important advancements in Class 8 truck aerodynamics, engine and powertrain efficiencies as part of the DOE SuperTruck II Project. The PACCAR Technical Center and DAF Trucks, a subsidiary of PACCAR, also participated. The project utilizes Kenworth's T680 highway flagship tractor and the fuel-efficient PACCAR MX engine. The project's target goals include the demonstration of greater than 100 percent improvement in freight efficiency over the 2009 equivalent model and achieving 55 percent engine brake thermal efficiency. At the end of 2021, PACCAR launched its SuperTruck 3 program to continue the development of its Class 8 Kenworth and Peterbilt battery electric and fuel cell vehicles, along with its vehicle charging stations. SuperTruck 3 is a U.S. Department of Energy initiative to develop state of the art zero emissions medium- and heavy-duty trucks. PACCAR received a \$33 million matching grant for the highly selective program. "The SuperTruck 3 award underscores PACCAR's industry leadership in zero emissions commercial vehicles," said John Rich, PACCAR chief technology officer.

C12.2

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

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement

Complying with regulatory requirements

Description of this climate related requirement

PACCAR requires all suppliers to be in compliance with IATF 16949 Quality System Requirements published by the Automotive Industry Action Group, Detroit MI (www.aiag.org). PACCAR expects its suppliers to comply with the standards set forth in its Supplier Code of Conduct, and all laws, rules and regulations in the countries in which they operate. PACCAR selects suppliers after detailed reviews of their operations. PACCAR conducts periodic on-site supplier visits, announced and unannounced, for various reasons, including verification and auditing of contract compliance. These expectations apply to all PACCAR suppliers, their affiliates and locations worldwide.

% suppliers by procurement spend that have to comply with this climate-related requirement

100

% suppliers by procurement spend in compliance with this climate-related requirement

100

Mechanisms for monitoring compliance with this climate-related requirement

Certification

Supplier self-assessment

First-party verification

Response to supplier non-compliance with this climate-related requirement

Other, please specify (Suppliers who fail to meet these standards risk the loss of all existing and future business with PACCAR.)

C12.3

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

Row 1

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

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

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

No, but we plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

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

PACCAR's policy engagement and lobbying activity at the local, state, regional, and national level are centrally managed by region. For example, in the U.S., PACCAR's public affairs office in Washington, D.C. reports to the corporate General Counsel to insure consistent alignment with overall business strategy including climate related priorities. In the EU, DAF engages in climate policy outreach through the European Automobile Manufacturer's Association (ACEA) and reports to PACCAR's President. Both PACCAR's President and General Counsel are members of PACCAR's operating committee ensuring consistent climate strategy across business units and geographies.

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

<Not Applicable>

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

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Other, please specify (Fuel Efficiency, GHG Emissions, and non-GHG Emissions.)

Specify the policy, law, or regulation on which your organization is engaging with policy makers

Direct engagement with the Department of Energy, National Highway Traffic Safety Administration, US EPA, Environment Canada, California Air Resources Board and the European Parliament in developing fuel-efficient freight, carbon neutral transport and infrastructure.

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

Europe

North America

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

Improving fuel economy and the commercialization of alternate fuels helps PACCAR's customers reduce costs and impacts on the environment. Transport emissions regulations should be harmonized internationally to cost effectively broaden the environmental benefit. Public policy that supports development of alternative powertrains and the associated road freight infrastructure.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.3b

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

Trade association

Other, please specify (Engine Manufacturers Association (EMA))

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

Consistent

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

We are not attempting to influence their position

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

The Engine Manufacturers Association works cooperatively with regulatory agencies, including the US Environmental Protection Agency (EPA), the California Air Resources Board (ARB), the National Highway Transportation Safety Administration (NHTSA), state governments and international regulatory agencies to develop and implement cost-effective and technologically feasible emissions, fuel efficiency and safety regulations that result in fewer emissions, better fuel efficiency, and enhanced safety. EMA's President recently stated, "our members continue to increase fuel efficiency and lower greenhouse gas emission in line with standards that will continue to challenge us through the next decade. EMA members are ready to build upon these successes to achieve even greater reductions."

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (European Automobile Manufacturer's Association (ACEA))

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

Consistent

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

We are not attempting to influence their position

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

In a May 2021 position paper, ACEA presents a ten point plan for addressing climate change risks and opportunities of road freight in Europe including industry support for reaching carbon neutrality in road freight by 2050, predictions for market share of battery electric medium and heavy-duty vehicles in Europe by 2025 and 2030, as well as fuel cell electric vehicles by 2030, recommended infrastructure targets for battery electric and fuel cell hydrogen refueling stations for 2025 and 2030, and recommendations to expedite the infrastructure roll out by providing the necessary financial incentives to support both public and private investments, as well as transport operators transition challenges.

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.4

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

Publication

In mainstream reports

Status

Complete

Attach the document

paccar-2021-annual-report.pdf

Page/Section reference

paccar-2021-annual-report Pages 3, 4, 5, 6, 7, 9, 11, 13, 16, 19, 22, 25, 28, 29

Content elements

- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets

Comment

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

pccar-tcfid-report-february2022.pdf

Page/Section reference

pccar-tcfid-report Page 1

Content elements

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

Comment

Publication

In voluntary sustainability report

Status

Complete

Attach the document

sasb-esg-combined-report-february2022.pdf

Page/Section reference

sasb-esg-combined-report pages 1,2,3,4,5,6,7,8,10,12, 14,15

Content elements

- Governance
- Strategy
- Emissions figures
- Other metrics
- Other, please specify (Supplier Code of Conduct)

Comment

C15. Biodiversity

C15.1

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

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Please select	<Not Applicable>	<Not Applicable>

C15.2

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

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Please select	<Not Applicable>	<Not Applicable>

C15.3

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

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Please select	<Not Applicable>

C15.4

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

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Please select	<Not Applicable>

C15.5

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

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Please select	Please select

C15.6

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

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
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C16. Signoff

C-FI

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

PACCAR CDP Climate Change Questionnaire responses may contain statements that are forward looking. These statements are based on current expectations and assumptions that are subject to risks and uncertainties, which may cause actual results to differ materially. A summary of risks and uncertainties is described in more detail in our periodic reports filed with the Securities and Exchange Commission (SEC). We undertake no duty to update or revise these response whether as a result of new information, future events or otherwise. For the most recent financial, risk and other information about PACCAR, please see our SEC filings and most recent earnings release available on the Investor Relations page of www.paccar.com.

C16.1

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

	Job title	Corresponding job category
Row 1	Director of Sustainability, PACCAR Inc.	Other, please specify (Director)

SC. Supply chain module

SC0.0

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

SC0.1

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

	Annual Revenue
Row 1	23522300000

SC1.1

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

Requesting member

Syncreon

Scope of emissions

Please select

Allocation level

Please select

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified

No

Allocation method

Please select

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

Unit for market value or quantity of goods/services supplied

Please select

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

Customers are encouraged to request Scope 3 product use emissions during their purchasing process as greenhouse gases are in part dependent on the customer's selection of unit configurations. Customer's lifetime Scope 3 emissions are also highly dependent on customer driving practices, duty cycles, and selection of fuels including biofuels. Customers allocation of scope 1 and 2 greenhouse gas emissions can be calculated by them based on PACCAR's CDP disclosures and customer's knowledge of the number of units purchased. Unique product level allocations of scope 1 and 2 are not available.

Requesting member

The Coca-Cola Company

Scope of emissions

Please select

Allocation level

Please select

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Verified

Please select

Allocation method

Please select

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

Unit for market value or quantity of goods/services supplied

Please select

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

Customers are encouraged to request Scope 3 product use emissions during their purchasing process as greenhouse gases are in part dependent on the customer's selection of unit configurations. Customer's lifetime Scope 3 emissions are also highly dependent on customer driving practices, duty cycles, and selection of fuels including biofuels. Customers allocation of scope 1 and 2 greenhouse gas emissions can be calculated by them based on PACCAR's CDP disclosures and customer's knowledge of the number of units purchased. Unique product level allocations of scope 1 and 2 are not available.

SC1.2

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

PACCAR's CDP disclosures

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Other, please specify (See explanations for customer scope 1, 2 and 3 allocations)	See above

SC1.4

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

SC2.1

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

Requesting member

Syncreon

Group type of project

Please select

Type of project

Please select

Emissions targeted

Please select

Estimated timeframe for carbon reductions to be realized

Please select

Estimated lifetime CO2e savings

Estimated payback

Please select

Details of proposal

Customer's are encouraged to discuss possible collaborations as part of their purchasing discussions with PACCAR.

Requesting member

The Coca-Cola Company

Group type of project

Please select

Type of project

Please select

Emissions targeted

Please select

Estimated timeframe for carbon reductions to be realized

Please select

Estimated lifetime CO2e savings

Estimated payback

Please select

Details of proposal

Customer's are encouraged to discuss possible collaborations as part of their purchasing discussions with PACCAR.

SC2.2

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

SC4.1

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms