

C0. Introduction

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C0.1

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

Cummins Inc., a global power leader, is a corporation of complementary business segments that design, manufacture, distribute and service a broad portfolio of power solutions. The company's products range from diesel, natural gas, electric and hybrid powertrains and powertrain-related components including filtration, aftertreatment, turbochargers, fuel systems, controls systems, air handling systems, automated transmissions, electric power generation systems, batteries, electrified power systems, hydrogen generation and fuel cell products. Headquartered in Columbus, Indiana (U.S.), since its founding in 1919, Cummins employs approximately 61,600 people committed to powering a more prosperous world through three global corporate responsibility priorities critical to healthy communities: education, environment and equality of opportunity. Cummins serves its customers online, through a network of company-owned and independent distributor locations, and through thousands of dealer locations worldwide and earned about \$2.3 billion on sales of \$23.6 billion in 2019. See how Cummins is powering a world that's always on by accessing news releases and more information at <https://www.cummins.com/always-on>.

C0.2

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**(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 2019	December 31 2019	No	<Not Applicable>

C0.3

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

Angola  
Argentina  
Australia  
Belgium  
Bolivia (Plurinational State of)  
Botswana  
Brazil  
Canada  
China  
Colombia  
Costa Rica  
Côte d'Ivoire  
Czechia  
El Salvador  
France  
Germany  
Ghana  
Honduras  
India  
Ireland  
Italy  
Japan  
Kazakhstan  
Malaysia  
Mexico  
Mongolia  
Morocco  
Mozambique  
Netherlands  
New Zealand  
Nigeria  
Norway  
Panama  
Papua New Guinea  
Philippines  
Poland  
Republic of Korea  
Romania  
Russian Federation  
Saudi Arabia  
Senegal  
Serbia  
Singapore  
South Africa  
Spain  
Sweden  
Turkey  
United Arab Emirates  
United Kingdom of Great Britain and Northern Ireland  
United States of America  
Zambia

**C0.4**

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

USD

**C0.5**

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

Operational control

**C1. Governance**

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**C1.1**

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

Yes

## C1.1a

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

Position of individual(s)	Please explain
Board Chair	The roles of Board Chairman and Chief Executive Officer are held by the same person at Cummins, and he has direct responsibility for climate-related issues. This is because climate strategy and action are integrated into Cummins overall strategy and operations. The chief administrative officer, who is responsible for facilities, and the vice president of strategy report to the CEO. He views environmental sustainability - including product innovation and facilities and operations - as an important element of Cummins business strategy. He is very engaged in our sustainability work, and meets at least once a year for 4 hours give his thoughts on sustainability strategy and target progress. in addition to regular board updates every other month.
Chief Executive Officer (CEO)	The roles of Board Chairman and Chief Executive Officer are held by the same person at Cummins, and he has direct responsibility for climate-related issues. This is because climate strategy and action are integrated into Cummins overall strategy and operations. The chief administrative officer, who is responsible for facilities and the vice president of strategy report to the CEO. He views environmental sustainability - including product innovation and facilities and operations - as an important element of Cummins business strategy. He is very engaged in our sustainability work, and meets at least once a year for 4 hours give his thoughts on sustainability strategy and target progress in addition to regular board updates every other month.
Board-level committee	The Safety, Environment and Technology committee. This Committee is authorized to assist our Board in its oversight of safety policies, review environmental and technological strategies, compliance programs and major projects and review public policy developments, strategies and positions taken by us with respect to safety, environmental and technological matters that significantly impact us or our products. It met five times in 2019. Its six members have a range of experience including automotive and transportation, manufacturing and supply chain, technology, corporate responsibility and government / regulatory affairs.
President	The President also has direct responsibility for climate-related issues. This is because climate strategy and action are integrated into operations, planning, capital budgeting processes, technology strategy and innovation and carried out by the business unit presidents, which report to the President.

## 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	<ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Reviewing and guiding business plans</li> <li>Monitoring implementation and performance of objectives</li> <li>Overseeing major capital expenditures, acquisitions and divestitures</li> <li>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</li> </ul>	<Not Applicable>	The CEO and President, both on the board, provide guidance on strategy and budget and review current climate goal progress. The board SET committee provides overall guidance and insight, and in particular did so for the new environmental sustainability plan announced in 2019. The Safety, Environment and Technology committee is authorized to assist our Board in its oversight of safety policies, review environmental and technological strategies, compliance programs and major projects and review public policy developments, strategies and positions taken by us with respect to safety, environmental and technological matters that significantly impact us or our products. It met five times in 2019. Its six members have a range of experience including automotive and transportation, manufacturing and supply chain, technology, corporate responsibility and government / regulatory affairs. In 2019,

## C1.2

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

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

The CEO and President, both who serve on the board, have direct responsibility for all facets of climate-related issues in strategy, operations (manufacturing, facilities and supply chain), planning, budgets and technology and innovation. The staff of the President (the operating team) and the CEO's staff (executive team) meet monthly and the combined teams meet quarterly.

The Environmental Sustainability program office reports up to the the Chief Technical Officer. As such, she is responsible for reviewing sustainability plans and targets, particularly as they related to technology and innovation. The CTO is responsible for Cummins advancement in electrification, low carbon technology and fuel cell technology in addition to meeting all current and emerging regulations for criteria pollutants and greenhouse gas. The CTO also is the senior executive with oversight and overall responsibility for the environmental sustainability plan. This makes the CTO uniquely qualified to lead climate-related program for next generation products including strategy and planning for low carbon transitioning, scenario analysis and product-use greenhouse gas emissions goals. Progress is reported to the Board of Directors at each Board meeting including climate-related issues and progress.

The Action Committee for Environmental Sustainability (ACES), formed in 2012, integrates climate change actions into overall business strategy. The executive sponsor and the head of this group both report up through the Chief Technical Officer. The group is the voice and catalyst for environmental action beyond compliance in the company and provides tools and resources for employees go further and faster in reaching environmental goals. The group meets monthly and reports progress to the CTO through its executive sponsor weekly. ACES directs the development of the environmental sustainability plan and reports out on progress in meeting goals. The corporate ACES team has a global focus includes as its stakeholders nearly all businesses and all functions. The individual stakeholder and goal owner areas of ACES ensure that all aspects of the environment and relevant areas of the business are included and data is collected and reported that inform decision making and goal setting. A major outcome of the working group is that in June 2014, Cummins announced that after several years of study and analysis, it had adopted a comprehensive environmental sustainability plan and since announced 7 public goals. The group has now developed the next sustainability plan, to be announced in late 2019, that include 2050 aspirations with 2030 goals along the glide path. Goals in the areas of addressing climate change and air emissions, natural resource efficiency and the circular economy and sustainability in the communities in which we operate will be included.

The Company has an Executive Risk Council comprised of the COO, CFO, CAO, General Counsel, and Vice President-Corporate Strategy that meets five times a year with our leader of enterprise risk management to review and update our material enterprise-related risks and their mitigation plans. Ownership of the most significant enterprise risks are assigned to a member of our leadership team. The committee reviews all the risks annually and does deep dives on risks which include climate on a regular basis.

C1.3

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

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

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Please select	The seven public goals are part of the CEO's workplan, and he reports on the plan's progress to the Board of Directors as part of his performance review. One of those 7 goals is a energy reduction target, a 32% energy intensity reduction by 2020 from a base year of 2010.
Environment/Sustainability manager	Monetary reward	Please select	A key measure in Cummins' Global Environmental Sustainability Plan is a commitment to transparency and accountability. Environmental goals are now incorporated into the Quarterly Scorecard for the Cummins Leadership Team's review. The scorecard shows progress toward the facilities and operations waste, water, energy, and greenhouse gas goals, products in use goal, and logistics goal. In each of these areas, the scorecard will show progress on the both enterprise-wide goals as well as the progress toward the goal apportioned by each business unit and some area business organizations (regional or country focused.) Progress toward goal achievement is part of an employee's work plan for the year and can result in monetary award through merit increases and meeting the company's ROANA target, which results in a profit sharing bonus for all employees
Facilities manager	Monetary reward	Please select	A key measure in Cummins' Global Environmental Sustainability Plan is a commitment to transparency and accountability. Environmental goals are now incorporated into the Quarterly Scorecard for the Cummins Leadership Team's review. The scorecard shows progress toward the facilities and operations waste, water, energy, and greenhouse gas goals, products in use goal, and logistics goal. In each of these areas, the scorecard will show progress on the both enterprise-wide goals as well as the progress toward the goal apportioned by each business unit and some area business organizations (regional or country focused.) Progress toward goal achievement is part of an employee's work plan for the year and can result in monetary award through merit increases and meeting the company's ROANA target, which results in a profit sharing bonus for all employees
Energy manager	Monetary reward	Please select	A key measure in Cummins' Global Environmental Sustainability Plan is a commitment to transparency and accountability. Environmental goals are now incorporated into the Quarterly Scorecard for the Cummins Leadership Team's review. The scorecard shows progress toward the facilities and operations waste, water, energy, and greenhouse gas goals, products in use goal, and logistics goal. In each of these areas, the scorecard will show progress on the both enterprise-wide goals as well as the progress toward the goal apportioned by each business unit and some area business organizations (regional or country focused.) Progress toward goal achievement is part of an employee's work plan for the year and can result in monetary award through merit increases and meeting the company's ROANA target, which results in a profit sharing bonus for all employees
All employees	Non-monetary reward	Please select	Cummins has a global employee recognition framework called the Impact Awards. Employees who led a project, employees who were involved with a project or employees who served as the project sponsor can self-nominate their work and can be judged and then recognized their work represents an outstanding effort that supports overall business goals. Beginning in 2017, there are now three different Impact Awards that employees can be recognized for: Business Impact; Global Impact; Chairman's Impact. One of the five award area categories is Environmental. Projects included in this category can range from site facility projects to product design to projects in collaboration with a customer. Many of these projects are climate related through greater energy efficiency or increased fuel economy.

**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	1	3	For a large global company like Cummins, three years or sooner is a short time horizon, especially for product development. Acquisitions would be included in this timeframe.
Medium-term	3	10	Most of Cummins planning falls into this time horizon, as engine platforms or specific product launches are not short-term.
Long-term	10	30	Cummins PLANET2050 environmental sustainability plan would fall into this category. It contains science-based targets for both 2030 and 2050.

**C2.1b**

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

Cummins definition of substantive financial or strategic impact when identifying or assessing climate-related risks does include criteria the company uses for financial risk, specifically a material ( not only adverse, however,) effect on our results of operations, financial position and cash flows. But when considering financial or strategic impact from climate change, the definition and indicators include not only impact to earnings or a cost to realize an opportunity or mitigate a risk (in this submission generally \$100 million) but also dramatic changes in production process or the numeric goals the company committed to as part of its new sustainability strategy, PLANET 2050. The new targets for greenhouse gas (GHG) reduction in both products and facilities are included in our PLANET 2050 sustainability strategy. In some cases, such as the goal to reduce absolute GHG emissions from facilities and operations by 50%, actions over the next 10 years could involve substantive change both in manufacturing processes as well as investment strategy.

**C2.2**

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

**Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

Annually

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

**Description of process**

During 2016-2017, Cummins performed global scenario planning work to understand how climate-related risks stand to impact the markets and customers we serve, and how these risks might impact our business. Cummins tracks developments in "priority areas" that were determined via a scenario planning process. One priority area that the business monitors is climate change policies. Within this priority area we monitor policy developments globally relating to national and sub-national climate goals and resulting legislation or regulations. Updates on this priority area are provided to an internal technical strategy team twice a year. The strategy team directs follow up to appropriate groups within the business and business leadership. These priority areas can be indicators of both risks and opportunities. Our Technology Planning function, under our Chief Technical Officer, leads this work, integrating input from our "sensing network" for technical developments, regulatory developments, or market/economic developments. The scenario planning process was an integral part of Cummins strategy to pursue electrified products, hydrogen and other low-carbon future options identified as a transitional opportunity.. This has resulted, since late 2017, in the acquisition of two battery storage companies and an electrified powertrain company, the development of an electric heavy-duty truck, and the introduction of our first battery electric bus in 2019. Our hydrogen activities include the acquisition of Hydrogenics Corporation in September 2019, providing Cummins with both proton exchange membrane (PEM), alkaline fuel cells, and electrolyzers used to generate hydrogen. Cummins has also invested in LOOP Energy, signed a memo of understanding with Hyundai Motor Company, entered an agreement to form a joint venture with NPROXX, and invested in the development of solid oxide fuel cells. Cummins has done much work on identifying physical climate-related water risk. Cummins conducted detailed watershed assessments to facilities scoring above the 150 'at risk' threshold. Cummins Brasil Ltda, the largest site in Brazil, was added to the risk list due to specific water issues arising in the area. Potential for inadequate or unreliable water supplies in the short- and longterm horizons, which could lead to operational disruptions, increased water pricing, investment in contingency plans, and increased capital expenditures to manage growth within water use allocation limits. This site was recently elevated to high risk based upon facility expansion and recent drought conditions within Brazil. A watershed assessment was conducted to better understand and evaluate water sourcing risks, alternatives, and overall watershed conditions. In addition to continued water conservation measures and technologies, additional response measures may include deployment of additional water storage and low/no water use processes such as air cooled chiller systems where warranted, and upgrades to the wastewater treatment system to allow for 100% reuse. Cummins encourages community engagement projects each year focusing on employee volunteer hours and sustainable projects that will be owned by the community upon completion. Cummins has a grant process to fund these projects and allows sites to fund smaller ones within their budget. Historical data shows these are relatively low cost. The Action Committee for Environmental Sustainability did a hot spot environmental assessment in 2011 and the resulting data still informs our strategy and planning today. The assessment concluded that 99% of our GHG footprint comes from our products in their use phase. The group identified an opportunity to address these emissions by setting a science-based target to reduce lifetime emissions from newly sold products in their use phase by 2030.

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**C2.2a**

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Risk type: Global regulation complexity. Our engines are subject to extensive statutory and regulatory requirements that directly or indirectly impose standards governing emissions and noise. These standards are imposed by the EPA, the EU, state regulatory agencies (such as the CARB) and other regulatory agencies around the world. We have made, and will be required to continue to make, significant capital and research expenditures to ensure our engines comply with these emission standards. Developing engines and components to meet numerous changing government regulatory requirements, with different implementation timelines and emission requirements, makes developing engines efficiently for multiple markets complicated and could result in substantial additional costs that may be difficult to recover in certain markets. In some cases, we are required to develop new products to comply with new regulations, particularly those relating to air emissions and now increasingly GHG emissions. While we have met previous deadlines, our ability to comply with other existing and future regulatory standards will be essential for us to maintain our competitive advantage in the engine markets we serve. Management method/risk assessment: Cummins in 2019 created the Product Compliance and Regulatory Affairs organization to focus on strengthening the company's collaboration with the environmental agencies that set emissions regulations and certification processes. Cummins is working to ensure continued compliance with increasingly-challenging global emissions regulations. The new organization will function independently from, and provide oversight to, the product development teams and business functions, reporting directly into the Chief Executive Officer. Working in tandem with our Policy Analysis & Technology Portfolio team, PCRA manages this climate-related risk by monitoring global regulations and climate change sentiment and policy in countries where we sell products.
Emerging regulation	Relevant, always included	Risk type: timing of government implementation and enforcement of increasingly stringent emission standards in emerging markets are unpredictable and subject to change. The nature and timing of government implementation and enforcement of increasingly stringent emission standards in emerging markets are unpredictable and subject to change. Any delays in implementation or enforcement could result in the products we developed or modified to comply with these standards becoming unnecessary or becoming necessary later than expected thereby, in some cases, negating our competitive advantage. This in turn can delay, diminish or eliminate the expected return on capital and research expenditures that we have invested in such products and may adversely affect our perceived competitive advantage in being an early, advanced developer of compliant engines. Management method/risk assessment: Cummins Policy Analysis & Technology Portfolio team working in tandem with product strategy, the growth office, marketing management and government relations, monitor the likelihood of emerging climate-related regulations in the countries where we sell products.
Technology	Relevant, always included	Risk type: The nature and timing of government implementation and enforcement of increasingly stringent emission standards in emerging markets are unpredictable and subject to change. We are investing in new products and technologies, including electrified powertrains, for planned introduction into certain existing and new markets. Given the early stages of development of some of these new products and technologies, there can be no guarantee of the future market acceptance and investment returns with respect to these planned products. The increased adoption of electrified powertrains in some market segments could result in lower demand for current diesel or natural gas engines and components and, over time, reduce the demand for related parts and service revenues from diesel or natural gas powertrains. Furthermore, it is possible that we may not be successful in developing segment-leading electrified powertrains and some of our existing customers could choose to develop their own electrified or alternate fuel powertrains, or source from other manufacturers, and any of these factors could materially adversely impact our results of operations, financial condition and cash flows. Management method/risk assessment: Cummins Policy Analysis & Technology Portfolio team, working in tandem with environmental (climate) strategy and our corporate strategy and growth office, routinely assesses the sentiment about climate change risk and the perception of that risk by our current and potential customers and use that data gathering in product planning.
Legal	Relevant, always included	Risk type: Non-compliance with product and facility regulations. Expenditures for environmental control activities and environmental remediation projects at our facilities in the U.S. have not been a substantial portion of our annual expenses and are not expected to be material in 2020. We believe we are in compliance in all material respects with laws and regulations applicable to our plants and operations. Management method/risk assessment: The facilities and operations environmental management group and its associated internal legal counsel monitor and assess environmental and climate-related regulations.
Market	Relevant, always included	Risk type: success of new or existing products and services in the marketplace Although we conduct market research before launching new or refreshed engines and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace. Offering engines and services that customers desire and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less than desirable (whether in terms of price, quality, overall value, fuel efficiency or other attributes) can exacerbate these risks. With increased consumer inter-connectedness through the internet, social media and other media, mere allegations relating to poor quality, safety, fuel efficiency, corporate responsibility or other key attributes can negatively impact our reputation or market acceptance of our products or services, even if such allegations prove to be inaccurate or unfounded. Management method/risk assessment: Product planners use the intelligence gathered by our environmental sensing network to help plan for market expansion in areas that have emerging climate-related regulation or have need for lower carbon products.
Reputation	Relevant, always included	Risk type: Harm to reputation as a product provider and/or environmental leader Offering engines and services that customers desire and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less than desirable (whether in terms of price, quality, overall value, fuel efficiency or other attributes) can exacerbate these risks. With increased consumer inter-connectedness through the internet, social media and other media, mere allegations relating to poor quality, safety, fuel efficiency, corporate responsibility or other key attributes can negatively impact our reputation or market acceptance of our products or services, even if such allegations prove to be inaccurate or unfounded. Management method/risk assessment: Cummins marketing, communications, government relations and environmental strategy have developed a power of choice action plan to help customers decide which technology is right for them, and meets their climate goals. Cummins is committed to investing in an energy diverse future where its customers have a broad portfolio of power options – including clean diesel, natural gas, electrified power and even fuel cell technology – so they can choose what works best for them. Cummins believes, for example, that some of its customers may opt for clean diesel as an infrastructure is developed across the country for electrified power.
Acute physical	Not relevant, included	Risk type: Water scarcity due to climate change Climate-related risks that are physical in nature are typically water related. We have not recognized any acute water risks. Potential for inadequate or unreliable water supplies in the long-term horizons, which could lead to operational disruptions, increased water pricing, investment in contingency plans, and increased capital expenditures to manage growth within water use allocation limits. Management method/risk assessment: Facilities and operations environmental management monitors and assesses climate related water risks and have business continuity plans accordingly. Cummins has already met its 2020 goal for water intensity reduction of 50% (achieved 54%) and has set a 2030 absolute reduction target of 30%.
Chronic physical	Relevant, sometimes included	Risk type: Water scarcity due to climate change Climate-related risks that are physical in nature are typically water related. We have not recognized any acute water risks. Potential for inadequate or unreliable water supplies in the long-term horizons, which could lead to operational disruptions, increased water pricing, investment in contingency plans, and increased capital expenditures to manage growth within water use allocation limits. Management method/risk assessment: Facilities and operations environmental management monitors and assesses climate related water risks and have business continuity plans accordingly. Cummins has already met its 2020 goal for water intensity reduction of 50% (achieved 54%) and has set a 2030 absolute reduction target of 30%.

**C2.3**

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

Yes

**C2.3a**

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

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Downstream

**Risk type & Primary climate-related risk driver**

Technology	Transitioning to lower emissions technology
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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**

The technology substitution is the end result of a number of drivers, among them emerging regulation, shift in consumer preference, increasingly lower cost of ownership and the customers' own sustainability goals. We are investing in new products and technologies, including electrified powertrains, for planned introduction into certain existing and new markets. Given the early stages of development of some of these new products and technologies, there can be no guarantee of the future market acceptance and investment returns with respect to these planned products. The increased adoption of electrified powertrains in some market segments could result in lower demand for current diesel or natural gas engines and components and, over time, reduce the demand for related parts and service revenues from diesel or natural gas powertrains.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

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

100000000

**Potential financial impact figure – maximum (currency)**

200000000

**Explanation of financial impact figure**

2019 revenue from our Engine business was \$10.1 billion. Over the long term, the increased adoption of electrified powertrains in some market segments could result in lower demand for current diesel or natural gas engines and components and, over time, reduce the demand for related parts and service revenues from diesel or natural gas powertrains. This financial impact represents a 1 to 2 percent loss of current (not projected) revenue over the next 3 to 10 years (medium term).

**Cost of response to risk**

90000000

**Description of response and explanation of cost calculation**

Cummins Technical and Environmental Systems team is focused on Cummins growth areas beyond our core technical work, examining disruptive and future technologies and enabling us to effectively monitor signposts from our scenario planning work and technology sensing network. Future technology research is carried out in our Research and Technology group. Roughly 10 percent or \$100 million of Cummins research and development budget is devoted specifically to technology innovation that does not yet have a specific customer identified. Roughly 85 percent (or \$850 million) of our total R&D budget is research and development for products launches that already have an end customer. Case study/example: A recent example of being pro-active in introducing a lower-carbon solution is our May 2019 announcement of the GILLIG zero-emission battery electric bus, powered by Cummins. The zero-emission battery electric bus incorporates the Cummins electrified powertrain. The first Cummins-powered fully electric school bus made its debut in Indiana in August 2020. The bus, which was built by manufacturer Blue Bird and powered by the Cummins PowerDrive system, will reduce emissions and create a safe environment for students and the local community.

**Comment**

The cost of management reflects the spending on research and technology.

**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Chronic physical	Changes in precipitation patterns and extreme variability in weather patterns
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**Primary potential financial impact**

Decreased revenues due to reduced production capacity

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Potential for inadequate or unreliable water supplies in the long-term horizons, which could lead to operational disruptions, increased water pricing, investment in contingency plans, and increased capital expenditures to manage growth within water use allocation limits. The regions we have identified are China ( Hai Ho river basin); India (Krishna river basin); Mexico (Panuco river basin) and Brazil (Paraiba Do Sul river basin).

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**



<Not Applicable>

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

1000000

**Potential financial impact figure – maximum (currency)**

20000000

**Explanation of financial impact figure**

Cummins conducted detailed watershed assessments to facilities identified as at risk. Overall, 46 percent of Cummins water use is in water stressed areas. Financial implications would be periods of plant inactivity or closure, loss of production and possible customer deadline ramifications. The maximum \$20 million figure would represent the maximum amount of lost revenue due to a high estimate of 5-7 days of plant shutdown due to lack of water for operations.

**Cost of response to risk**

4000000

**Description of response and explanation of cost calculation**

To manage this risk, Cummins has established a 2020 50 percent water intensity reduction goal with a baseline year of 2014 and committed to a goal of 15 water neutral sites in water-stressed regions of operations. In addition, we have set a 30 percent absolute reduction target to be achieved by 2030. We report the progress towards Management method varies by site, but can include continued water conservation measures in existing operations, increase in water storage capacity, and deployment of low/no water use processes such as air cooled chiller systems where warranted based upon facility water dependency. These systems increased capital expenditure and increased operating costs related to higher energy use, but off-set the potential risks associated with interruption of operations. However, Cummins is also using technologies such as regenerative dynos to manage the costs associated with the energy impact. Case study/example: The Cummins' engine plant at Rocky Mount, North Carolina (U.S.), has a state-of-the-art water treatment system to be brought on-line in 2020 that includes filtering through plants in a greenhouse to increase the amount of water that can be reused.

**Comment**

**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Downstream

**Risk type & Primary climate-related risk driver**

Emerging regulation	Mandates on and regulation of existing products and services
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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**

The need to development new technology to meet emissions regulations could result in substantial additional costs that may be difficult to recover in certain markets. In some cases, we are required to develop new products to comply with new regulations, particularly those relating to air emissions. While we have met previous deadlines, our ability to comply with other existing and future regulatory standards will be essential for us to maintain our competitive advantage in the engine markets we serve. The successful development and introduction of new and enhanced products in order to comply with new regulatory requirements are subject to other risks, such as delays in product development, cost over-runs and unanticipated technical and manufacturing difficulties.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

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

100000000

**Potential financial impact figure – maximum (currency)**

200000000

**Explanation of financial impact figure**

2019 revenue from our Engine business was \$10.1 billion. This financial impact represents a 1 to 2 percent loss of current (not projected) revenue over the next 3 to 10 years (medium term).

**Cost of response to risk**

10000000

**Description of response and explanation of cost calculation**

Over the past several years we have substantially increased our global environmental compliance presence and expertise to understand and meet emerging product environmental regulations around the world. Our ability to comply with these and future emission standards is an essential element in maintaining our leadership position in regulated markets. We have made, and will continue to make, significant capital and research expenditures to comply with these standards. The \$10 million figure relates to a portion of our typical research and technology budget that we need to be devoted to developing new compliant technology. Case study/example: Cummins in 2019 created the Product Compliance and Regulatory Affairs organization to focus on strengthening the company's collaboration with the environmental agencies that set emissions regulations and certification processes. Cummins is working to ensure continued compliance with increasingly-challenging global emissions regulations. The new organization will function independently from, and provide oversight to, the product development teams and business functions, reporting directly into the Chief

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

Yes

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

Opp1

**Where in the value chain does the opportunity occur?**

Downstream

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development 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**

Cummins has been very public with its intent on introducing electrified products. With battery capacity improving and prices dropping, electrified powertrains are becoming more affordable and practical for certain types of commercial vehicles, particularly urban bus fleets and pickup and delivery trucks. We see electric as a great option for return to base, short-run commercial vehicle routes that do not require large torque. As more parts of the world generate cleaner electricity, we expect electrified powertrains to become an increasingly-viable option for other types of customers, too. We will provide the entire electrified powertrain solution, as well as some of the most critical components that have the largest impact on performance, quality, and power of the system to deliver the most value to our customers.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

&lt;Not Applicable&gt;

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

100000000

**Potential financial impact figure – maximum (currency)**

150000000

**Explanation of financial impact figure**

2019 revenue from our Engine business was \$10.1 billion.. Medium duty truck and bus make up 27 percent of engine business revenue and heavy duty truck 35 percent or \$6.2 billion in revenue for both segments. The potential impact is represents a 2 percent gain of current (not projected) revenue over the next 3 to 10 years (medium term). due to acceptance of electrified products.

**Cost to realize opportunity**

1000000000

**Strategy to realize opportunity and explanation of cost calculation**

As part of the company's journey to accelerate its capabilities and offerings of alternative power, in November 2019 Cummins renamed its Electrified Power segment to New Power to better represent our expanded and robust portfolio. The New Power segment designs, manufactures, sells and supports electrified power systems ranging from fully electric to hybrid along with innovative components and subsystems, including battery, fuel cell and hydrogen production technologies. We anticipate our customer base for New Power offerings will be highly diversified, representing multiple end markets with a broad range of application requirements. The \$1 billion investment is two \$500 million investments over two three-year time periods ( 2018 to 2020 and 2020 to 2022) . Case study/examples: With the unveiling of the Concept Class 7 Urban Hauler EV in 2017, Cummins introduced a state-of-the art battery pack offering, redefining energy-efficiency and density capabilities for the electric vehicle market. We currently offer the Cummins PowerDrive series of fully electric and hybrid powertrain systems targeting various applications in the Class 4-8 commercial vehicle markets and are developing the Cummins Battery Electric System and the Cummins Hybrid Power Plug-In System for the urban bus market. In May 2019 we introduced the GILLIG zero-emission battery electric bus, powered by Cummins' electrified powertrain. The first Cummins-powered fully electric school bus made its debut in Indiana in August 2020. The bus, which was built by manufacturer Blue Bird and powered by the Cummins PowerDrive system, will reduce emissions and create a safe environment for students and the local community.

**Comment**

The \$1 billion investment is two \$500 million investments over two three-year time periods ( 2018 to 2020 and 2020 to 2022)

**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Use of more efficient production and distribution processes

**Primary potential financial impact**

Reduced direct costs

**Company-specific description**

Cummins has a climate-related opportunity in responsible material consumption. Seventy percent of a product's environmental footprint, meaning water and energy use plus in use emissions, is determined during the earliest phases of the design process. The earlier the company can incorporate innovative design for the efficient use of fuel and raw materials, the greater its ability to reduce the environmental footprint (energy, water and waste) of Cummins products both in their design and use. This opportunity includes Cummins functions / businesses of remanufacturing, packaging, advanced manufacturing, material science and product design.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

&lt;Not Applicable&gt;

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

180000000

**Potential financial impact figure – maximum (currency)**

270000000

**Explanation of financial impact figure**

The financial impact is an estimate of long-term savings on raw material required to manufacture our products plus savings from packaging initiatives. Cummins estimates 95 percent of the materials used to produce the organization's primary products are non-renewable (primarily metals, but also oil and plastic). Cummins estimates it uses 900,000 metric tons of metal for one year's production. Estimated savings is based on a 2 to 3 percent reduction in weight as related to our annual spend on direct material.

**Cost to realize opportunity**

1300000

**Strategy to realize opportunity and explanation of cost calculation**

A dedicated Cummins team for material efficiency was formed in 2018 and is working now on ways to make the company's products more eco-efficient in the future. Many of the concepts of the "circular economy" and its emphasis on reuse and recycling are not new, but this team is connecting with the various functions in charge of materials work at Cummins to elevate their importance. The goal is to use the right amount of material in everything the company makes to avoid unnecessary use of water and energy throughout a product's lifecycle. That means using material optimization tools to ensure structural integrity with minimized material and specifying that raw material is finished as close as possible to the ending net shape of the component. Packaging leaders at Cummins are working to better understand what metrics and actions will drive consistent and environmentally sound packaging decisions. Their goals for sustainable packaging solutions are to reduce packaging waste and increase reusable solutions as well as the use of recyclable material. Case study/example: Cummins, applying its Design for Lifecycle principles to an ISF2.8 exhaust manifold system, was able to see many benefits in resource efficiency. The casting design was improved through use of variable geometry fillets, boss geometry tailoring, improved structure rib strategy, and using varying runner wall thicknesses. Machining stress concentrations were eliminated – making the parts easier to manufacture and lower stress. Cummins was able to save the use of over 126,000 kg of high grade iron over just 1 year's production and approximately \$250,000 in costs annually.

**Comment**

The cost to realize is primarily related to additional employees required who have expertise in specialized design optimization systems and software as well as costs for the material optimization software and design for lifecycle tools.

**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Participation in renewable energy programs and adoption of energy-efficiency measures

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

Cummins is committed to energy efficiency and renewable energy both for cost savings and resiliency. We are currently working on our third energy efficiency / GHG reduction goal since 2006. We have completed more than one thousand energy projects in the last 12 years, now saving the company about \$62 million per year. We have also committed to have 40 sites certified to ISO 50001 energy standard by 2020. We have two public 2020 goals : 1) energy intensity reduction of 32 percent by 2020 from a baseline of 2010 and 2) to increase renewable energy opportunities. Through our PLANET 2050 strategy, we have a 2030 goal to reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50 %.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

62000000

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

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

We have estimated that our annual cost savings from energy efficiency projects (cumulative since 2006) is \$62 million per year.

**Cost to realize opportunity**

34000000

**Strategy to realize opportunity and explanation of cost calculation**

Cummins employees in its Facilities and Operations Environmental Management group set strategy, objectives and targets, which are carried out through the business units, at site level and through Global Integrated Services. The company's Enterprise Environmental Management System (EMS), created in 2003, plays a critical role in Cummins' global environmental footprint reductions and other improvements. The company adopted a model that includes a common framework to ensure a similar look, feel and fundamental approach throughout the organization. The system has served as the framework for driving continual improvement and efforts beyond compliance at Cummins operations around the world. Our employee engagement program Environmental Champions includes energy as well as water and waste training. In 2019, the Company completed its 6th June Environmental Month, with more than 2/3 of our employees participating in some way in a site, community or personal action. Case study/example: The LED lighting campaign was launched in 2018 when a need to focus on lighting upgrades was identified. Lighting surveys were completed globally to understand the current make up of our global lighting footprint. We found many sites had converted to LED in manufacturing areas but not the entire site or office areas. As part of the campaign approach we conducted regional requests for proposals and selected partners regionally to purchase and install LED lighting. In 2019 we completed over 140 projects converting facilities lighting to LED resulting in a reduction of more than 268,000 MMBTUs energy saved annually. These projects covered all areas of the interior and exterior lighting as well as lighting controls. In 2019 Cummins went from approximately 30% LED coverage to over 85% coverage globally. In 2017, Cummins announced that it had entered into a Virtual Power Purchase Agreement (VPPA) to expand a wind farm in Northern Indiana, which went online in December 2018. The expansion will add 75 megawatts, enough to power approximately 20,000 average Indiana homes, to the existing 600 megawatt capacity at the Meadow Lake Wind Farm complex. Since it went online in mid-December 2018 to end of 2019, the Meadow Lake VI wind farm in northwest Indiana (U.S.) generated enough renewable energy to offset 15.7% of Cummins global facilities' carbon footprint.

**Comment**

The \$34 million is an our annual spend to achieve our 2020 energy efficiency goal; another \$2.5 million is for onsite renewable energy. The VPPA is a contract for differences, so financial gain or loss is determined each month. Cummins has not disclosed the details of the contract.

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**Identifier**

Opp4

**Where in the value chain does the opportunity occur?**

Downstream

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

In the race to develop more sustainable and renewable energy sources, hydrogen has re-emerged as a potential key solution in the transition to zero-emission mobility. Cummins is rapidly growing its hydrogen capabilities and the company continues to deepen its expertise in fuel cell technologies. Cummins uses fuel cell and hydrogen technologies to power a variety of applications, including transit buses, semi-trucks, delivery trucks and passenger trains. Scaling up existing hydrogen technologies will deliver competitive low-carbon solutions across a wide range of applications by 2030 and may even offer competitive low-carbon alternatives to conventional fuels in some segments.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**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)**

100000000

**Potential financial impact figure – maximum (currency)**

150000000

**Explanation of financial impact figure**

2019 revenue from our Engine business was \$10.1 billion.. Medium duty truck and bus make up 27 percent of engine business revenue and heavy duty truck 35 percent or

\$6.2 billion in revenue for both segments. The potential impact is represents a 2 percent gain of current (not projected) revenue over the next 3 to 10 years (medium term). due to acceptance of electrified products.

**Cost to realize opportunity**

1290000000

**Strategy to realize opportunity and explanation of cost calculation**

In November 2019 Cummins renamed its Electrified Power segment to New Power to better represent our expanded and robust portfolio. The New Power segment designs, manufactures, sells and supports electrified power systems ranging from fully electric to hybrid along with innovative components and subsystems, including battery, fuel cell and hydrogen production technologies. We anticipate our customer base for New Power offerings will be highly diversified, representing multiple end markets with a broad range of application requirements. The \$1 billion investment is two \$500 million investments over two three-year time periods ( 2018 to 2020 and 2020 to 2022) plus \$290 million for the acquisition of Hydrogenics . Cummins has made several announcements in the past year related to fuel cell technologies. These include the acquisition of Hydrogenics Corporation in September 2019, providing Cummins with both proton exchange membrane (PEM), alkaline fuel cells, and electrolyzers used to generate hydrogen. Cummins has also invested in LOOP Energy, signed a memo of understanding with Hyundai Motor Company, entered an agreement to form a joint venture with NPROXX, and invested in the development of solid oxide fuel cells. Case study/example: Cummins has partnered with Alstom Transport in Europe for PEM fuel cell powered regional commuter trains. The successful trial operation of the world’s first two hydrogen trains was officially completed at the end of February 2020. Coradia iLint is the first passenger train in the world to be powered by a hydrogen fuel cell, which generates electrical energy for propulsion. This completely emission-free train is quiet and emits only water vapor and condensation water. The train features several different innovations: clean energy conversion, flexible energy storage in batteries and intelligent management of motive power and available energy. Cummins has partnered with L’Air Liquide S.A. for on-site hydrogen generation. build and install a 20 megawatt electrolyzer system for a hydrogen production facility located in Canada. The facility is expected to be in commercial operation by the end of 2020, with an output of just under 3,000 tons of hydrogen annually. The 20MW plant will use Hydrogenics’ advanced large-scale PEM electrolysis technology, offering the smallest footprint and highest power density in the industry.

**Comment**

**C3. Business Strategy**

**C3.1**

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

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

**C3.1a**

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

Yes, qualitative and quantitative

**C3.1b**

**(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.**

Climate-related scenarios and models applied	Details
Other, please specify (Paris climate agreement/science-based targets)	<p>Cummins uses a method known as scenario planning to contemplate different potential future outcomes in order to make more informed decisions. Cummins’ objective in doing scenario planning is to ensure that its investment portfolio is informed and contemplates all major scenarios that would impact the business on an ongoing basis and that looks beyond a short term planning window. Scenarios were developed out to 2035 as a reasonable outlook and timeframe. To do this, Cummins first identified the driving forces behind major changes in the world and the critical uncertainties within each. Based on the themes of those critical uncertainties, plausible scenarios were developed to weave a narrative of potential futures. The three themes that Cummins considered in its scenarios were Climate Change and Carbon Regulations, Evolution of Advanced Technologies, and Economic De-globalization. Potential outcomes and implications to Cummins’ business were then analyzed to understand when and how the most extreme disruptions might occur over time. As part of Cummins’ own scenario planning process, the company benchmarked Shell as an example of how to use scenario planning to inform investment decisions and future business conditions. Cummins uses Shell Scenarios to understand various methods of conducting scenario planning analysis and how to treat various inputs. Cummins does not use Shell Scenarios as a prediction, rather, the Shell Scenarios are one reference point for Cummins as a peer company that uses scenario planning. One scenario that Cummins uses through this planning exercise is a climate-related scenario in which countries around the world take aggressive and globally orchestrated steps to decarbonize their economies. Cummins used a climate-related scenario to understand the extreme limits and major drivers of action within this scenario out to 2035; anything less extreme would be compared to a baseline assumption of how this scenario might play out. Scenario planning has already helped accelerate Cummins’ voluntary sustainability actions. We have developed and have had validated (not yet announced) two science based targets for new products and facilities that meet the threshold to limit global warming to 1.5 degrees Celsius or lower. To keep that analysis relevant, Cummins must continually monitor and respond accordingly to changes against key indicators. Cummins does not view scenario planning as a one-time activity. Rather, it must be used as tool on an ongoing basis to account for real world changes that occur to inform the potential futures that are yet to come. For this reason, Cummins developed a "Signpost Monitoring Process" with assigned owners to key signposts or indicators that are considered most critical to the scenarios. Cummins uses a broad network of external experts and information sources to monitor signposts. Twice a year, signpost owners are required to synthesize their findings and report on any major developments within their priority area. If a trend needs further investigation, a team is assigned to conduct a deep-dive analysis on that topic to understand it better. In line with these annual synthesis reports, C-suite leaders review the findings twice a year and determining a plan of action if that is required. Cummins’ senior-most leaders are actively involved in the review and decision-making for the company’s use of scenario planning. This ensures that alignment regarding developments on external trends, including climate change related trends are fully considered into short and long-term business planning. By using scenario planning and our existing strategies to address climate change and related impacts, Cummins is prepared to more nimbly adapt its business and investment strategy.</p>
Nationally determined contributions (NDCs)	<p>Cummins supports the framework of the Paris Agreement and believes that it gives the world a flexible framework to manage climate change while providing a smooth transition for business. American companies, our suppliers, customers, and communities will benefit from U.S. participation in the Paris Agreement in several ways: o It strengthens our competitiveness in global markets. o It benefits American manufacturing as we modernize to new, more efficient technologies. o It supports investment by setting clear goals which enable long-term planning. o It expands global and domestic markets for clean, energy-efficient technologies which will generate jobs and economic growth. o It encourages market-based solutions and innovation to achieve emissions reductions at low cost. Cummins uses Nationally Determined Contributions (NDCs) submitted by each signatory nation through the framework of the Paris Agreement as one input into the Cummins Scenario Planning process. NDCs are a valuable indicator for how ambitious a nation may be in its commitment to mitigate GHG emissions. For this reason, Cummins uses the NDCs and other projections to inform our scenario planning. Because NDCs must undergo an emissions stock-taking and must ratchet up their pledges on five-year cycles, they provide a regular and predictable view for Cummins to understand how a given nation is progressing against its goals, and thus how Cummins may need to shift our own efforts to align to those targets. Cummins has a process in place and internal subject matter experts identified who are responsible for monitoring climate change policy development globally, including the tracking of NDCs. While the initial submission of NDCs in 2015 still present an "ambition gap" that will not achieve the stated mitigation goal of a 2 degree C warming scenario, Cummins uses NDCs as a baseline of what nations are likely to achieve.</p>

C3.1d

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	A response to climate change was a major driver in the development of the company's new sustainability strategy PLANET 2050, where Cummins sees both risk mitigation and new product opportunity. One of the three key priorities of the plan is "doing our part do address climate change and air emissions." Cummins developed a science-based target in 2019 in conjunction with the Science-based Target Initiative, pledging by 2030 to reduce scope 3 absolute lifetime GHG emissions from newly sold products by 25 percent. By 2050, the company aspires to power customer success by carbon neutral technologies that address air quality. Cummins is committed to investing in an energy diverse future where customers have a broad portfolio of power options, including new technology diesel, natural gas, electrified power, fuel cell technology and alternative fuels – so they can choose what works best for them. Cummins in 2019 for the first time invested more than \$1 billion in research, technology and engineering expenses as the company enhanced its diesel and natural gas products and brought to market new low-carbon technologies such as hydrogen fuel cells.
Supply chain and/or value chain	Yes	A response to climate change was a major driver in the development of the company's new sustainability strategy PLANET 2050, where Cummins sees an opportunity to help customers as part of the value chain achieve their own sustainability goals and reduce costs and GHG emissions. One of the three key priorities of the plan is "doing our part do address climate change and air emissions." In this plan, the company will dramatically expand its partnership with customers to reduce scope 3 GHG emissions from products in the field by 55 million metric tons (cumulative since 2014) by 2030.
Investment in R&D	Yes	Cummins developed a science-based target in 2019 in conjunction with the Science-based Target Initiative, pledging by 2030 to reduce scope 3 absolute lifetime GHG emissions from newly sold products by 25 percent. By 2050, the company aspires to power customer success by carbon neutral technologies that address air quality. Cummins is committed to investing in an energy diverse future where customers have a broad portfolio of power options, including new technology diesel, natural gas, electrified power, fuel cell technology and alternative fuels – so they can choose what works best for them. Cummins in 2019 for the first time invested more than \$1 billion in research, technology and engineering expenses as the company enhanced its diesel and natural gas products and brought to market new low-carbon technologies such as hydrogen fuel cells.
Operations	Yes	Cummins started its facility energy efficiency journey in 2006; now PLANET 2050 includes Cummins 4th energy / GHG reduction target – to reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50% by 2030. To achieve this goal, Cummins will continue to explore ways to increase renewable energy to reduce the impacts of climate change. One of the company's most ambitious decisions was to enter into a Virtual Power Purchase Agreement (VPPA) to expand a wind farm in Northern Indiana, which went online in December 2018. The expansion will add 75 megawatts, enough to power approximately 20,000 average Indiana homes, to the existing 600 megawatt capacity at the Meadow Lake Wind Farm complex. Since it went online in mid-December 2018 to end of 2019, the Meadow Lake VI wind farm in northwest Indiana (U.S.) generated enough renewable energy to offset 15.7% of Cummins global facilities' carbon footprint.

C3.1e

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures Acquisitions and divestments	Responding to climate change Cummins has made several announcements in the past year related to fuel cell technologies. These include the acquisition of Hydrogenics Corporation in September 2019, providing Cummins with both proton exchange membrane (PEM), alkaline fuel cells, and electrolyzers used to generate hydrogen. Cummins has also invested in LOOP Energy, signed a memo of understanding with Hyundai Motor Company, entered an agreement to form a joint venture with NPROXX, and invested in the development of solid oxide fuel cells. In 2019, Cummins spent \$34 million for energy efficiency. Spending has increased in both 2018 and 2019 to reach our 2020 energy intensity reduction target of 32%.

C3.1f

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

Environmental sustainability leadership for the next several decades requires a focused approach, starting with the choice of material to how products are designed, made, used — and disposed. Sustainability actions can be thought of as value creation (increase innovation, improve competitiveness, and strengthen culture), as well as

value protection(reduce regulatory uncertainty and strengthen risk mitigation). That is why Cummins has created its PLANET 2050 environmental sustainability strategy. The strategy sets big targets for 2050 and specific goals for 2030. It will help employees see the roles they and Cummins play in our company's and planet's sustainable future. There are three primary focus areas for the strategy:

1. Reducing greenhouse gas (GHG) emissions in line with climate experts' recommendations.
2. Doing our part to use natural resources in the most sustainable way possible.
3. Our communities are better because we are there.

Cummins firmly believes the companies that are successful in the future will deliver more value to customers with less of an environmental impact. Cummins intends on being one of those companies

## C4. Targets and performance

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### C4.1

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

Both absolute and intensity targets

#### C4.1a

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##### (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**

2015

**Target coverage**

Please select

**Scope(s) (or Scope 3 category)**

Scope 3: Use of sold products

**Base year**

2014

**Covered emissions in base year (metric tons CO2e)**

914000000

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

99.24

**Target year**

2020

**Targeted reduction from base year (%)**

1.6

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

899376000

**Covered emissions in reporting year (metric tons CO2e)****% of target achieved [auto-calculated]**

<Calculated field>

**Target status in reporting year**

Please select

**Is this a science-based target?**

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

**Please explain (including target coverage)**

Cummins fuel economy teams throughout the world have implemented more than 300 projects since this goal was announced in 2014. The result is that Cummins has already surpassed its goal of a 3.5 million metric ton run rate per year and achieved a 4.3 million metric ton run rate in 2018.

---

**Target reference number**

Abs 2

**Year target was set**

2019

**Target coverage**

Please select

**Scope(s) (or Scope 3 category)**

Scope 3: Use of sold products

**Base year**

2018

**Covered emissions in base year (metric tons CO2e)**

809000000

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

99.24

**Target year**

2030

**Targeted reduction from base year (%)**

25

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

606750000

**Covered emissions in reporting year (metric tons CO2e)****% of target achieved [auto-calculated]**

&lt;Calculated field&gt;

**Target status in reporting year**

Please select

**Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

**Please explain (including target coverage)**

Cummins Inc committed to reduce absolute scope 3 GHG emissions from the use of sold products 25% by 2030 from a 2018 base year. On June 21, 2019, the SBTi's Target Validation Team approved the target.

**Target reference number**

Abs 3

**Year target was set**

2019

**Target coverage**

Please select

**Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

**Base year**

2018

**Covered emissions in base year (metric tons CO2e)**

878842

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

100

**Target year**

2030

**Targeted reduction from base year (%)**

50

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

439421

**Covered emissions in reporting year (metric tons CO2e)****% of target achieved [auto-calculated]**

&lt;Calculated field&gt;

**Target status in reporting year**

Please select

**Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

**Please explain (including target coverage)**

Cummins, Inc committed to reduce absolute scope 1 and 2 GHG emissions 50% by 2030 from a 2018 base year. On June 21, 2019, the SBTi's Target Validation Team classified the scope 1 and 2 target ambition and determined that it is in line with a 1.5°C trajectory, and approved the target.

**C4.1b**



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

**Target reference number**

Int 1

**Year target was set**

2016

**Target coverage**

Please select

**Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

**Intensity metric**

Please select

**Base year**

2010

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

796255

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

95.5

**Target year**

2020

**Targeted reduction from base year (%)**

32

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

541453.4

**% change anticipated in absolute Scope 1+2 emissions**

**% change anticipated in absolute Scope 3 emissions**

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

**% of target achieved [auto-calculated]**

<Calculated field>

**Target status in reporting year**

Please select

**Is this a science-based target?**

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

**Please explain (including target coverage)**

Cummins in 2016 approved its third GHG goal in 10 years after exceeding its second greenhouse gas (GHG) reduction goal in 2015. The current goal's intensity factor is based on hours worked, not revenue as previously used. All consolidated operations and joint ventures subscribing to Cummins' Enterprise Environmental Management System are included. However, emissions associated with generation of sold electricity (as part of the power solutions business) and mobile sources (emissions associated with onroad vehicles) are not included in the goals. Additionally, it is assumed that 2010 market based emissions to be the same as location based emissions. During the same period (2010 to 2020), based on the hours forecast, a 10% increase in absolute Scope 1+2 emissions is anticipated. This target does not include or impact Scope 3 emissions.

**C4.2**

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

Target(s) to increase low-carbon energy consumption or production

**C4.2a**

**(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.**

**C4.3**

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

Yes

**C4.3a**

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	342	37999
Not to be implemented	0	0

### C4.3b

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

**Initiative category & Initiative type**

Energy efficiency in production processes	Compressed air
---	----------------

**Estimated annual CO2e savings (metric tonnes CO2e)**

4395

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

1079000

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

3021000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

44 projects

**Initiative category & Initiative type**

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

**Estimated annual CO2e savings (metric tonnes CO2e)**

5580

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

364000

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

1962000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

60 projects

**Initiative category & Initiative type**

Energy efficiency in buildings	Lighting
--------------------------------	----------

**Estimated annual CO2e savings (metric tonnes CO2e)**

10453

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

2707000

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

9027000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

102 projects

**Initiative category & Initiative type**

Energy efficiency in buildings	Other, please specify (Building controls)
--------------------------------	---

**Estimated annual CO2e savings (metric tonnes CO2e)**

2303

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

604000

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

1090000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

20 projects

**Initiative category & Initiative type**

Energy efficiency in buildings	Motors and drives
--------------------------------	-------------------

**Estimated annual CO2e savings (metric tonnes CO2e)**

2740

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

225000

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

611000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

15 projects

**Initiative category & Initiative type**

Low-carbon energy generation	Solar PV
------------------------------	----------

**Estimated annual CO2e savings (metric tonnes CO2e)**

8032

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

1369000

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

8392000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

21-30 years

**Comment**

17 projects

**Initiative category & Initiative type**

Energy efficiency in production processes	Other, please specify (Energy recovery from engine test cells)
---	--

**Estimated annual CO2e savings (metric tonnes CO2e)**

3409

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

249000

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

2724000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

21 projects

**Initiative category & Initiative type**

Energy efficiency in buildings	Other, please specify (Building controls)
--------------------------------	---

**Estimated annual CO2e savings (metric tonnes CO2e)**

536

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

173000

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

902000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

16 projects

**Initiative category & Initiative type**

Energy efficiency in production processes	Other, please specify (Low/no cost)
---	-------------------------------------

**Estimated annual CO2e savings (metric tonnes CO2e)**

511

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

77000

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

1000

**Payback period**

&lt;1 year

**Estimated lifetime of the initiative**

3-5 years

**Comment**

7 projects

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

Method	Comment
Dedicated budget for energy efficiency	Since 2007, Cummins has implemented an energy efficiency capital fund to finance energy-related projects. Cummins has a comprehensive investment plan designed to achieve the Company's 2015 energy and GHG intensity goals, as well as the new 2020 energy and GHG intensity goals.
Internal price on carbon	\$7 per metric ton CO2e; except where local external price on carbon is higher, in which case the higher price is used
Dedicated budget for other emissions reduction activities	A central budget is provided to fund corporate energy and GHG initiatives, including the Cummins Environmental Champion program (updated Energy Champion program integrating Water and Waste) and implementing ISO 50001 across the Cummins Enterprise. Cummins 2020 goal is to certify 40 sites and by end of 2019 has 44 sites globally certified to ISO 50001. In addition, Cummins has a dedicated budget of \$2.5 million for onsite renewable energy installations.
Employee engagement	Cummins continues to have a its successful Environmental Champions program. Environmental Champions take 32 hours of training over five days. Conformance with this program is a requirement for the 50 priority sites that comprise 90 percent of Cummins environmental footprint. In addition, Cummins issues internal newsletters and blogs, and conducts company-wide June environmental month activities where more than two-thirds of the company's employees participate in learning or site activities.
Financial optimization calculations	Cummins uses a model of the internal rate of return to establish a baseline IRR for funded energy efficiency projects. Use of common financial analysis tools and calculators.
Internal incentives/recognition programs	Cummins has conducted company-wide environmental awards since 2005, called the Chairman's Environmental Awards program. Each year, sites are encouraged to submit applications for the awards, using a common template and judged by a panel of Cummins energy and environmental leaders. Award winners are entered into the recognition framework called the Impact Awards. Employees who led a project, employees who were involved with a project or employees who served as the project sponsor can self-nominate their work and can be judged and then recognized their work represents an outstanding effort that supports overall business goals. Beginning in 2017, there are now three different Impact Awards that employees can be recognized for: Business Impact; Global Impact; Chairman's Impact. One of the five award area categories is Environmental. Projects included in this category can range from site facility projects to product design to projects in collaboration with a customer. Many of these projects are climate related through greater energy efficiency or increased fuel economy.
Partnering with governments on technology development	The company's recent portfolio of government co-funded technology development and system integration programs stands at \$351.2 million in total public / private research investment since 2010. A table of the most recent partnerships is found in the attachment to this question. US Department of Energy (DOE) Better Plants Program partner.
Compliance with regulatory requirements/standards	In the UK, meeting the requirements of the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme.
Internal finance mechanisms	In addition to the dedicated capital fund, energy and GHG reduction projects are also implemented through normal channels. Sites implement energy efficiency projects and select energy efficient options for projects by using the same financial tools and investment criteria as are used for the dedicated capital fund.

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

Yes

**C4.5a**

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

**Level of aggregation**

Group of products

**Description of product/Group of products**

Remanufactured engines and components, lighter-weight heavy duty engines, lighter -weight turbochargers and aftertreatment systems

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

Low-carbon product

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

Other, please specify (Company's own fuel consumption model)

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

20

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

---

**Level of aggregation**

Group of products

**Description of product/Group of products**

More fuel efficient heavy duty diesel engines, natural gas engines remanufactured engines plus co and tri-generation power systems, mobile generators, waste to energy systems

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

Avoided emissions

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

Other, please specify (Company's own fuel consumption model)

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

45

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

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C5. Emissions methodology

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C5.1

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

**Scope 1**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

249097

**Comment**

Scope 1 emissions include (1) Stationary combustion, (2) Generation of sold electricity, (3) Fugitive SF6, CO2, (4) Mobile sources and (5) Refrigerant emissions

**Scope 2 (location-based)**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

547158

**Comment**

Scope 2 emissions include (1) Electricity, (2) Hot Water, (3) Steam

**Scope 2 (market-based)**

**Base year start**

January 1 2010

**Base year end**

December 31 2010

**Base year emissions (metric tons CO2e)**

547158

**Comment**

Scope 2 emissions include (1) Electricity, (2) Hot Water, (3) Steam

**C5.2**

---

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

ISO 14064-1

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

The Greenhouse Gas Protocol: Scope 2 Guidance

US EPA Center for Corporate Climate Leadership: Indirect Emissions From Purchased Electricity

US EPA Center for Corporate Climate Leadership: Direct Emissions from Stationary Combustion Sources

US EPA Center for Corporate Climate Leadership: Direct Emissions from Mobile Combustion Sources

US EPA Mandatory Greenhouse Gas Reporting Rule

**C6. Emissions data**

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**C6.1**

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**(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)**

302907

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

**C6.2**

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**(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**

Cummins reports both Scope 2 location based and market based figures.

**C6.3**

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

**Reporting year**

**Scope 2, location-based**

504351

**Scope 2, market-based (if applicable)**

385653

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

The Scope 2 market-based emissions reported for 2019 were significantly less than in prior years due in part to the inclusion of renewable energy certificates (RECs) retained by Cummins for approximately 126,774 metric tons of CO2e (carbon dioxide equivalent) associated with a virtual power purchase agreement (VPPA) and updated emission factors that reduced greenhouse gases (GHGs) associated with the grid by approximately 38,000 metric tons of CO2e overall. The latter change can be attributed to improvements in the carbon intensity of the grid in at least some of the regions where Cummins operates. The following sources were used to calculate location-based emissions: 1) US EPA eGRID 2018, (13th edition), March 9, 2020. 2) International Sources (unless mentioned separately) Year 2017 factors from "CO2 Emissions from Fuel Combustion (2019 edition)", IEA, Paris. 3) CH4/N2O: International Electricity Emission Factors by Country, 1999-2002.xls. International Energy Agency, as cited by EIA for 1605b. [http://www.eia.doe.gov/oiaf/1605/emission\\_factors.html](http://www.eia.doe.gov/oiaf/1605/emission_factors.html). 4) Australia: Latest estimated scope 2 emission factors for consumption of purchased electricity from the grid as given in Table 44 ("Electricity emission factors for end users") of the National Greenhouse Gas Accounts (NGA) Factors published in August 2019. 5) Brazil: Year 2018 factors from the Ministry of Science, Technology, and Innovation, "Fator médio - Inventários corporativos." 6) Canada: "National Inventory Report 1990-2017: Greenhouse Gas Sources and Sinks in Canada," Part 3. Annex 13: Emission Factors, Tables A13-2 to A13-14. 7) India: CO2 factors from India Central Electricity Authority: CO2 Baseline Database for the Indian Power Sector, Version 15.0, December 2019, Table S-1. 8) UK: 2019 Government GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors. Table 8, 2017 factors. For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.

**C6.4**

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

No

**C6.5**

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



## Purchased goods and services

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

4392000

### Emissions calculation methodology

Cummins total spend data for direct purchasing (including raw materials - metals and commodities usage) as well as total 2019 indirect purchase expenses (including supply chain services, facilities services, IT and engineering, corporate services, etc.) were used to estimate the associated Scope 3 emissions. For purchased raw materials, cradle to gate approach was used to estimate the scope 3 emissions using the 2011 purchase data. 2019 emissions was calculated based on revenue change factor. For indirect purchasing goods and services, UK DEFRA's Standard Industrial Classification (SIC) Codes closest to the spend category and 2009 emission factors were utilized to estimate the scope 3 emissions (Reference/Source of Emission factors: Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance; March 2019; defra.uk). - Supply Chain Services: 20% assumed as ancillary transport services (SIC Code 63) under purchased goods and services; 80% is assumed transportation and distribution of products and parts. - Corporate Services: 10% as insurance and pension funds (SIC Code 66); 10% auxiliary financial services (SIC Code 66); and 80% as legal, consultancy, other business activities (SIC Code 74) Facilities Services: 75% assumed as purchased goods and services and rest 25% as capital goods. Of the 75%, assumed 50% as real estate activities (SIC Code 70); 25% as legal, consultancy, other business activities - industrial cleaning (SIC Code 74); 25% sewage and refuse services (SIC Code 90) - Product Testing and Manufacturing Services: 75% assumed as research and development (SIC Code 73) under purchased goods and services and 25% as capital goods; - IT & Engineering Services: 50% assumed as purchased goods and services and 50% as capital goods. Within purchased goods 50% is assumed as computer services (SIC Code 72) and 50% as metal products – general mechanical engineering services (SIC Code 28) - Indirect/Undefined: 50% assumed as office machinery and computers (SIC Code 30) under purchased goods and services and 50% as capital goods

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

100

### Please explain

Used 2019 indirect purchase data and also emissions estimated during Cummins environmental hot spot analysis study conducted in 2012 based on 2011 data adjusted to 2019 revenue. The hot spot analysis also includes the direct purchases of metals and other raw materials that go into the manufacturing of engines. Indirect purchasing level 2 categories were updated in 2019 and detailed assumptions are mentioned in the methodology. 2018 and prior year assumptions: We assumed that 20% of the commodities used are MRO/Chemicals that is part of the indirect purchasing. Also we assume 50 percent of the IT and engineering purchases come under this category and rest in the capital goods category. We assume that the CMI spend on Corporate services is comprised of the following SIC categories: Insurance and pension funds - 10 percent; Auxiliary financial services - 10 percent; and Legal, consultancy, other business activities - 80 percent. The purchase expenses not tracked through the centralized database is assumed to be of the same proportion for purchase goods and services as that from the centralized tracking database.

## Capital goods

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

414000

### Emissions calculation methodology

Cummins total 2019 spend data for capital goods purchases in facilities & construction, IT, engineering and machinery was used to estimate the scope 3 emissions. UK DEFRA's SIC Codes closest to the spend category and 2009 emission factors were utilized to estimate the scope 3 emissions (Reference/Source of Emission factors: Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance; March 2019; defra.uk). We assume that 100 percent of the indirect purchasing on facilities and construction is towards capital goods purchases.

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

100

### Please explain

Used 2019 indirect spend data to update the calculations as described in the calculation methodology.

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

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

173000

### Emissions calculation methodology

Energy consumption data for activities not included in Scope 1 or 2 is grouped by type (e.g. natural gas) and multiplied by activity specific emission factors. Life-cycle analysis software is used as the basis of emission factors for upstream emissions of purchased fuels. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the US and on UK Defra 2012 Guidelines for other countries. Emission factors for T&D losses are based on EPA's eGRID database for the US and on UK Defra 2012 guidelines for other countries. GWPs are IPCC Fourth Assessment Report (SAR - 100 year).

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

100

### Please explain

Includes scope 3 emissions from fuel and energy related activities from owned and operated facilities, 50:50 joint ventures subscribed to Cummins Enterprise Environmental Management System and 50:50 manufacturing joint ventures where Cummins has significant influence on operations.

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

798000

### Emissions calculation methodology

2019 transportation and distribution was assumed to be equal to 80 percent of the supply chain services spend. Also it was assumed 70 percent of the logistics was through road, 10 percent through rail, 10 percent through water and 10 percent through air. UK DEFRA's SIC Codes for Rail, Road, Water and Air categories and 2009 emission factors were utilized to estimate the scope 3 emissions (Reference/Source of Emission factors: Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance; March 2019; defra.uk).

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

100

### Please explain

Used 2019 indirect spend data for Supply Chain Services - Transportation and Distribution - to calculate the upstream transportation and distribution emissions as described in the methodology.

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

6900

### Emissions calculation methodology

The Waste Reduction Model (WARM) created by the U.S. Environmental Protection Agency (EPA) was used to quantify the scope 3 emissions for the landfilled waste, combusted waste and composted waste from Cummins global facilities for the year 2019. As there were no separate categories available for incinerated waste and waste that was burned for energy recovery, both were included in the combusted waste category and default factors in the tool were used to calculate the GHG emissions. Due to non-availability of exact categories, the general refuse / garbage generated was categorized as Mixed Organics as it includes primarily food waste from canteen, grass clippings from lawn etc. and the process derived industrial waste was categorized as Mixed MSW. Composted waste data from global facilities and the same was included in the emissions analysis (Reference/Source: EPA WARM Model).

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

100

### Please explain

In 2019, Cummins recycled about 91 percent of the global waste generated. This includes metals, electronic items, paper, plastics and corrugated boxes. As the model shows a GHG reduction for recycled product categories, the same was not included in the WARM model.

## Business travel

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

35500

### Emissions calculation methodology

All air travel data are tracked through a service provided to Cummins by AmEx. Emissions are calculated using the short, medium, and long haul air travel categories and associated emission factors given in Table 8 of US EPA EF Hub March 9, 2018. Car rental mileage for 2019 was provided by the rental car companies Hertz and Enterprise. Total emissions were calculated using the reported mileage and the US EPA EF Hub Passenger Car factors (March 9, 2018 edition).

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

100

### Please explain

Provided to Cummins by American Express, the air travel services provider, and Hertz and Enterprise, car rental providers. This data is emissions from air travel for flights and car rentals worldwide.

## Employee commuting

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

122000

### Emissions calculation methodology

Calculations derived from general country (outside of US) direct data and assumptions plus per state employee headcount data. Some direct and some derived assumptions of commuter mileage and mode of transportation. (Source of Emission factors: US EPA (2008); Greenhouse Gas Inventory Protocol Core Module Guidance - Direct Emissions from Mobile Combustion Sources, EPA Climate Leaders, Tables A-6 and A-7).

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

75

### Please explain

Cummins employees outside of the US tend to use transportation modes other than single-passenger personal vehicles more than their US counterparts. While it results in fewer GHG emissions, it is harder to track. This data represents the estimates conducted in 2012 by the regional environmental leaders and adjusted for 2019 employee headcount.

## Upstream leased assets

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

17000

### Emissions calculation methodology

Cummins leased facilities exempt from environmental reporting that are shared facilities with no operational control, separate meter and utility bills is considered under this category. Based on the Area Business Organization (ABO), Business Unit (BU) and facility type (Eg: Office, Warehouse etc), scope 1 and scope 2 emissions intensity were estimated and applied based on the occupied square footage. The total square footage is assumed to be the same as 2012. The Scope 1 and Scope 2 intensity is based on the average country specific Scope 1 and Scope 2 emission intensities that CMI owned/managed facilities

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

90

### Please explain

The list of facilities that are included in this category is maintained by the facilities real estate and the utility charges are included in the lease amount. We applied the country specific intensity factor for scope 1 and scope 2 and multiplied by the area of the leased facility in each country to get the totals.

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

798000

### Emissions calculation methodology

Most Cummins customers pay for the transportation of products sold to them, either directly or via part of an overall invoice. Since separate data was not available, an assumption was made that downstream transportation and distribution emissions of shipping and distribution of final products to customers were the same as upstream transportation and distribution of parts and input materials.

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

0

### Please explain

Most Cummins customers pay for the transportation of products sold to them, either directly or via part of an overall invoice. There's no separate dollar spend available. Hence an assumption was made that downstream transportation and distribution emissions of shipping and distribution of final products to customers were the same as upstream transportation and distribution of parts and input materials.

## Processing of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

2800

### Emissions calculation methodology

Engine weights used in the general categories of mid-range, heavy-duty and high-horsepower were derived by updating the 2012 calculation of weighted-average by volume of the various engine families within those three categories. Custodial engine volumes were taken from annual report Form 10-K and JV engine volumes were estimated using 2019 vs 2017 JV revenue growth. Assumptions were made on the power of the power tools / hoist used and the time taken to install each unit.

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

100

### Please explain

Based on engines shipped as detailed in Cummins 2019 Annual Report on Form 10-K and JV volumes were estimated applying 2019 to 2017 revenue growth factor.

## Use of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

925000000

### Emissions calculation methodology

Cummins use of sold product emissions were calculated using overall volumes by segment and engine model, which were then multiplied by the attrition rates to determine the volumes in operation each year moving forward. 2019 emissions were calculated by adjusting overall 2019 engine volumes against 2015 volumes. We used the long-standing Cummins New and Recon parts proprietary parts consumption model as well as customer engineering analysis to determine the attrition rate. We then multiplied each of these yearly figures by an age factor (i.e., a 10 year old truck will not operate the same number of hours or miles as a brand new truck) and then converted miles per gallon or gallons per hour to million metrics tons of CO2. The CO2e conversion factor for Diesel was applied based on the EPA's EF Hub and AR 4.

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

100

### Please explain

The lifetime CO2 emissions of more than 1 million engines produced by Cummins and its joint ventures in 2019. Overall volume of engines for custodial plants was down in 2019, the associated GHG emissions went down due to product mix: - Sharp drop in engines for off-highway (construction & agriculture), HHP (mining, O&G, rail, military, etc.) & PowerGen more than off-set the increase in on-highway - MMT of CO2 was up 32 for on-hwy, down 32 for off-hwy, down 36 for HHP and down 70 for PowerGen

## End of life treatment of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

59000

### Emissions calculation methodology

Cummins conducted a hot spot analysis to evaluate the impact of the end of life treatment of sold products. The waste related to sold product is primarily iron and steel (more than 90%). The estimates are based on landfilling, processing, and recycling of the generated wastes associated with those products. The assumption is 5% of the products are scrapped – 90% are melted / processed. The emissions were adjusted based on the change in the number of engine units shipped between 2011 and 2019.

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

100

### Please explain

The emissions reported here are the estimated emissions from the scrap of all products in use in the year 2011. This is different from the forward looking end of life emissions from all products sold in the year 2019. - Off-highway sales decreased \$250 million, primarily due to lower demand in construction markets especially in China, Asia Pacific and India. - Medium-duty truck and bus sales decreased \$148 million, principally due to decreased global bus sales and lower medium-duty truck demand in Brazil, partially offset by increased medium-duty truck sales in North America. - Heavy-duty truck engine sales decreased \$97 million, mainly due to lower demand in the North American heavy-duty truck market with decreased shipments of 6 percent, partially offset by increased sales in China. - Light-duty automotive sales decreased \$15 million as lower LCV sales, mainly in China, were mostly offset by higher pick-up truck sales in North America.

## Downstream leased assets

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

50000

### Emissions calculation methodology

This represents our rental generator fleet. We have made assumptions on generator use - as some generators are used as backup power and others operate full time. The total number of rental fleet generators at North American distributor locations were collected for 2012. Total fuel usage was estimated based on the number of generators from each kW category, efficiency and monthly average run time. The emissions were adjusted to the change in power systems business as a proxy for power solutions.

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

100

### Please explain

This calculation is from 1340 units rented through our North American distributors during 2012 and doesn't include similar fleets outside North America. The total emissions were adjusted proportionate to the drop in power solutions business in 2015 compared to 2012. In 2019, similar to prior year, since there was no separate power solutions sales available, used the power systems business change as proxy. Power Systems segment sales decreased 4 percent, due to lower demand in all product lines, especially industrial, as demand declined in oil and gas markets in North America and the global mining market.

## Franchises

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Cummins does not have any franchises.

## Investments

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

41400

### Emissions calculation methodology

Emissions from 50:50 joint venture investments in China and India are included in Scope 1 and Scope 2 based on operational control scope. The remaining minority and unconsolidated joint venture operations where Cummins does not have operational or administrative control are included in this category. Cummins holds a minority stake (<20% and 20-50% equity investee) in several distributor businesses and manufacturing operations, primarily in regions other than India and China. Emissions are calculated using unconsolidated revenue data and proportionate market-based emissions from the consolidated and 50:50 JV revenues.

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

0

### Please explain

Emissions from 50:50 joint venture investments in China and India are included in Scope 1 and Scope 2 based on operational control. The remaining minority and unconsolidated joint venture operations where Cummins does not have operational or administrative control are included in this category.

**Other (upstream)**

**Evaluation status**

Not evaluated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Please explain**

Cummins has not evaluated other upstream scope 3 emissions.

**Other (downstream)**

**Evaluation status**

Not evaluated

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

**Please explain**

Cummins has not evaluated other upstream scope 3 emissions.

C6.7

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

Yes

C6.7a

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

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	25.35	Calculated using the percentage of biodiesel in diesel fuel and ethanol in gasoline. The 25.35 metric tons of biogenic CO2e generated in 2019 was a slight increase from the 23.09 emitted in 2018.

C6.10

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**(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**

0.000030302

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

688560

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

22723243473

**Scope 2 figure used**

Market-based

**% change from previous year**

20

**Direction of change**

Decreased

**Reason for change**

Total net sales revenue (adjusted for inflation to 2010 dollars) decreased by 2.1% in 2019 compared to the prior year. Combined Scope 1 and Scope 2 market-emissions in 2019 were 21.7% lower in 2019 than in 2018 due in part to the inclusion of renewable energy certificates (RECs) retained by Cummins for approximately 126,774 metric tons of CO2e (carbon dioxide equivalent) associated with a virtual power purchase agreement (VPPA) and updated emission factors that reduced greenhouse gases (GHGs) associated with the grid by approximately 38,000 metric tons of CO2e overall. The significant decrease in Scope 2 market-based emissions and relatively constant revenue resulted in a 20% change in the emission intensity. Since it went online in mid-December 2018 to end of 2019, the Meadow Lake VI wind farm in northwest Indiana (U.S.) generated enough renewable energy to offset 15.7% of Cummins global facilities' carbon footprint. The expansion was made possible through Cummins' 15-year virtual power purchase agreement (VPPA) for 75 MW capacity signed in 2017. In addition to its VPPA with Meadow Lake wind farm, Cummins continues to use a facility investment plan approach to reduce emissions with a focus on test cell energy recovery and investments in on-site renewable projects to offset electricity purchased from the grid. Cummins invested \$30 million, double its typical annual amount, in 140 energy efficiency and renewable energy projects during 2019 toward achieving its energy and greenhouse gas (GHG) goals. Cost savings are projected to be about \$5.2 million per year. The global campaign for LED lighting launched last year produced impressive results; about 85% of the company's light fixtures are now LED. Cummins also increased its on-site renewable energy generation capacity in 2019 to 16.9 MW. Nine new solar PV projects were added in India alone, where solar intensity is high and power from the grid is carbon-intensive and expensive. Solar installations in India provide about 9% of the electricity Cummins uses there. In China, the Beijing Foton Cummins Engine Company expanded the largest solar array in the company, adding panels to a second building that, thanks to technology advances, will produce nearly as much power as the original 650,000 square foot array built in 2016. That array generates about 15% of the building's electricity needs.

**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	287131	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	197	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	491	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	15050	Other, please specify (HFC emission estimate based on facility square footage.)
Other, please specify (Fugitive SF6, CO2)	25.57	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)
Angola	6
Argentina	245
Australia	4812
Belgium	4245
Bolivia (Plurinational State of)	8
Botswana	674
Brazil	2828
Canada	6213
Costa Rica	9
China	41874
Colombia	105
Czechia	108
El Salvador	8
France	756
Germany	986
Ghana	49
Honduras	365
India	18718
Ireland	8
Italy	187
Côte d'Ivoire	3
Japan	27
Kazakhstan	90
Malaysia	344
Mexico	5059
Mongolia	210
Morocco	38
Mozambique	5
Netherlands	249
New Zealand	11
Nigeria	1282
Norway	18
Panama	74
Papua New Guinea	6
Philippines	120
Poland	252
Romania	1340
Russian Federation	389
Saudi Arabia	14
Senegal	46
Serbia	57
Singapore	150
South Africa	1573
Republic of Korea	1790
Spain	82
Sweden	75
Turkey	542
United Arab Emirates	418
United Kingdom of Great Britain and Northern Ireland	24950
United States of America	181240
Zambia	249

**C7.3**

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

**C7.3a**

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

Business division	Scope 1 emissions (metric ton CO2e)
Components Segment	25985
Corporate Segment	9356
Distribution Segment	66894
Engine Segment	117350
New Power Segment	303
Supply Chain Segment	10199
Power Systems Segment	72821

**C7.5**

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Angola <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	22	22	45	0
Argentina <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	56	56	160	0
Australia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	6230	6230	7444	0
Belgium <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	446	467	2612	0
Bolivia (Plurinational State of) <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	15	15	34	0
Botswana <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	29	29	20	0
Brazil <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	2882	2882	24559	0
Canada <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	2635	2635	9837	0
Costa Rica <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	0	0	82	0
China <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	123676	124104	202613	0
Colombia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	81	81	605	0
Czechia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	9	10	17	0
El Salvador <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	10	10	64	0
France <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	284	210	4092	0
Germany <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	1440	2487	3434	0





Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Poland <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	67	84	94	0
Romania <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	3065	3548	8842	0
Russian Federation <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	1078	1078	3004	0
Saudi Arabia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	286	286	402	0
Senegal <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	11	11	18	0
Serbia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	1	1	2	0
Singapore <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	649	649	1630	0
South Africa <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	3085	3085	3409	0
Republic of Korea <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	4465	4465	8282	0
Spain <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	36	56	125	0
Turkey <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	76	76	163	0
United Arab Emirates <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	1763	1763	2677	0
United Kingdom of Great Britain and Northern Ireland <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	11933	18373	48283	0
United States of America <i>The renewable energy certificates (RECs) retained by Cummins for approximately 238,060 MWh associated with a virtual power purchase agreement (VPPA) were incorporated into the Scope 2 market-based emissions reported for 2019. These RECs are being retired by Cummins in accordance with CDP's guidance. For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	238458	111706	529218	238060
Zambia <i>For market-based calculations, Cummins used residual mix factors for European facilities from the Association of Issuing Bodies, "European Residual Mixes: Results of the calculation of residual mixes for the calendar year 2018," Version 1.2, 2019-07-11. The calculations default to location-based factors for facilities outside of Europe where residual mix factors are not currently available.</i>	2	2	17	0

## C7.6

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

By business division

## C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Components Segment	111388	93936
Corporate Segment	18687	7429
Distribution Segment	38398	37788
Engine Segment	242628	166168
New Power Segment	409	488
Supply Chain Segment	24564	24329
Power Systems Segment	68276	55514

**C7.9**

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

Decreased

**C7.9a**

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	414	Decreased	0.05	On-site electricity generation from renewable sources (e.g. on-site solar panels) where Cummins retained the energy's renewable attributes increased from 950 MWh in 2018 to 2,126 MWh in 2019. The difference between the existing amount of on-site electricity generation from renewable sources at the beginning of 2018 (950 MWh) and the amount at the end of the year (2,126 MWh) was determined to be the amount by which energy generation within this category increased (1,176 MWh). The metric tons of CO2e represented by this change was determined by multiplying the electricity produced at each site in 2018 and 2019 by the applicable regional emission factors and then subtracting the resulting totals for 2019 by 2018 to determine the difference. The percent change in emissions attributed to renewable energy consumption was calculated by dividing 414 MT CO2e by the combined Scope 1 and Scope 2 location-based emissions in the prior year and multiplying by 100. The percent by which increased on-site electricity generation from renewable sources for which Cummins retained credits in 2019 reduced CO2e was calculated to be 0.05%.
Other emissions reduction activities	37959	Decreased	4.35	Cummins implemented 302 emission reduction initiatives in 2019, resulting in an estimated CO2e savings of 37,959 metric tons. This was a reduction of 4.3% as compared to the total Scope 1 and Scope 2 location-based emissions in 2018 (872,845 MT CO2e). The change in emissions attributed to these activities was calculated by dividing the sum of the emission reductions achieved through the projects implemented in 2019 by the total Scope 1 and Scope 2 location-based emissions in 2018. This value was then multiplied by 100 to yield the percent by which initiatives in 2019 reduced CO2e. The projects included solar panel installations, equipment repairs, improvements to building controls, energy efficient lighting and energy recovery from engine test cells.
Divestment		<Not Applicable >		
Acquisitions		<Not Applicable >		
Mergers		<Not Applicable >		
Change in output	10786	Increased	1.24	Increased production and business activities in 2019 resulted in a change in CO2e output of 10,786 metric tons. This value was calculated by subtracting the difference between combined Scope 1 and Scope 2 location-based emissions in 2018 and 2019 (-65,587 MT CO2e) by the sum of the changes in emissions in 2019 (-76,373 MT CO2e). In other words, output was determined to have increased in 2019 since the decrease in combined Scope 1 and Scope 2 location-based emissions was less than the reduction attributable to emission minimization activities. This was an increase of 1.24% as compared to the total Scope 1 and Scope 2 location-based emissions in 2018 (872,845 MT CO2e). The percent increase was calculated by dividing the change in CO2e output in 2019 (10,786 MT) by the total Scope 1 and Scope 2 location-based emissions in 2018. This value was then multiplied by 100 to yield the percent by which CO2e output would have increased without emission reduction measures. The emission reduction attributable to the virtual power purchase agreement (VPPA) with the Meadow Lake VI wind farm in 2019 (126,774 MT CO2e) was not part of the change in output calculation since it was not applied to Cummins' Scope 2 location-based emissions, only market-based. If the VPPA emission savings were incorporated, the difference between Scope 1 and Scope 2 emissions in 2018 and 2019 would have to be recalculated using market-based emissions in order to yield an accurate change in output value.
Change in methodology	38000	Decreased	4.35	Approximately 38,000 metric tons of Cummins' overall GHG reduction in 2019 can be attributed to the use of updated emission factors from the U.S. Environmental Protection Agency, the International Energy Agency and other country-specific sources. This was 4.35% of the total Scope 1 and Scope 2 location-based emissions in 2018 (38,000 MT CO2e / 872,845 MT CO2e x 100 = 4.35%). While Scope 2 location-based emissions are the basis for these performance calculations, an additional methodological change could be attributed to Cummins' 15-year virtual power purchase agreement (VPPA) with the Meadow Lake VI wind farm if Scope 2 market-based emissions were considered instead. Renewable energy credits (RECs) from the VPPA totaled 126,774 metric tons of CO2e. These RECs were accounted for at a zero emission factor in Cummins' 2019 Scope 2 market-based emissions. Taken together, the VPPA and change in emission factors would have resulted in a decrease of 164,774 metric tons of CO2e in 2019, which would be 18.75% of Cummins scope 1 and scope 2 market-based emissions in 2018 (878,842 MT CO2e).
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	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

### C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	1312836	1312836
Consumption of purchased or acquired electricity	<Not Applicable>	243880	1005093	1248973
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	17603	17603
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	2126	<Not Applicable>	2126
Total energy consumption	<Not Applicable>	246006	2335532	2581537

### 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	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

### C8.2c

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

**Fuels (excluding feedstocks)**

Fuel Oil Number 2

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

504543

**MWh fuel consumed for self-generation of electricity**

73408

**MWh fuel consumed for self-generation of heat**

1873

**MWh fuel consumed for self-generation of steam**

1873

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Emission factor**

73.96

**Unit**

kg CO2 per million Btu

**Emissions factor source**

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)

**Comment**

The self-generation of electricity using distillate fuel oil #2 is derived from fuel consumption in on-site test cells using an efficiency of 50%. Distillate fuel oil #2 usage associated with boilers, furnaces, forklifts and similar sources is split evenly between heat and steam.

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

577134

**MWh fuel consumed for self-generation of electricity**

34850

**MWh fuel consumed for self-generation of heat**

347021

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self-cogeneration or self-trigeneration**

16329

**Emission factor**

53.06

**Unit**

kg CO2 per million Btu

**Emissions factor source**

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)

**Comment**

The cubic feet of natural gas consumed by test cells with regenerative dynamometers is used as the basis for the self-generation of electricity. Stationary natural gas consumption reported at the facility level is counted toward the self-generation of heat. Energy generation associated with mobile sources and sold electricity is tracked separately.

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**Fuels (excluding feedstocks)**

Propane Liquid

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

14082

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

295

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Emission factor**

61.71

**Unit**

kg CO2 per million Btu

**Emissions factor source**

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)

**Comment**

Heat generation from propane is derived from a set proportion of fuel consumption not associated with test cells.

---

**Fuels (excluding feedstocks)**

Other, please specify (Stationary Gasoline)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

710

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Emission factor**

70.22

**Unit**

kg CO2 per million Btu

**Emissions factor source**

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)

**Comment**

---

**Fuels (excluding feedstocks)**

Motor Gasoline

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

74413

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Emission factor**

8.78

**Unit**

kg CO2 per gallon

**Emissions factor source**

Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

120418

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self-cogeneration or self-trigeneration**

0

**Emission factor**

10.21

**Unit**

kg CO2 per gallon

**Emissions factor source**Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)**Comment****Fuels (excluding feedstocks)**

Jet Kerosene

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

21536

**MWh fuel consumed for self-generation of electricity****MWh fuel consumed for self-generation of heat****MWh fuel consumed for self-generation of steam****MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self-cogeneration or self-trigeneration****Emission factor**

9.75

**Unit**

kg CO2 per gallon

**Emissions factor source**Federal Register EPA; 40 CFR Part 98; e-CFR, June 13, 2017. Table C-1, Table C-2, Table AA-1. [https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98\\_19.1](https://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1)**Comment****C8.2d****(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	108280	108258	7946	7946
Heat	349189	349189	0	0
Steam	1873	1873	0	0
Cooling	0	0	0	0

**C8.2e**

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

**Sourcing method**

Power purchase agreement (PPA) with a grid-connected generator with energy attribute certificates

**Low-carbon technology type**

Wind

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

United States of America

**MWh consumed accounted for at a zero emission factor**

238060

**Comment**

Cummins retained renewable energy certificates (RECs) equivalent to approximately 238,060 MWh through a virtual power purchase agreement (VPPA) with the Meadow Lake VI wind farm in northern Indiana. The recent expansion of the wind farm was made possible through Cummins' 15-year VPPA for 75 MW capacity signed in 2017. The VPPA provided a hedge against energy prices, as a slight price settlement loss was offset by reduced utility costs at the company's Indiana plants. Cummins accounted for the RECs in its Scope 2 market-based emissions by applying them to electricity purchased from the utility grid at its Indiana facilities. Approximately 238,060 MWh of electricity to which the EPA eGRID 2018 factor for RFC West would otherwise have been applied used an emission factor of zero. This resulted in avoided emissions from grid electricity at Cummins' Indiana facilities of 126,774 metric tons of CO<sub>2</sub>e.

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**C9. Additional metrics**

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**C9.1**

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

**Description**

Waste

**Metric value**

91.1

**Metric numerator**

Total Waste Recycled

**Metric denominator (intensity metric only)**

Total Waste Generated

**% change from previous year**

1.7

**Direction of change**

Increased

**Please explain**

Cummins has committed to increasing its recycling rate to 95% as one of its 2020 Sustainability Goals. In 2019, Cummins recycled 91.1% of the waste generated at its global facilities and operations.

---

**Description**

Energy usage

**Metric value**

0.07

**Metric numerator**

Total Energy Used [MMBtu]

**Metric denominator (intensity metric only)**

Total Hours Worked

**% change from previous year**

7.9

**Direction of change**

Decreased

**Please explain**

Cummins 2020 sustainability goals include a commitment to reducing energy intensity [MMBtu/hours worked] by 32% from a 2010 baseline. By the end of 2019, Cummins had reduced its global energy intensity by 31%.

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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	Please select	

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.

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**

Cummins 2019 GHG Verification Statement.pdf

**Page/ section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 1 emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

C10.1b

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

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Cummins 2019 GHG Verification Statement.pdf

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 2 approach**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Cummins 2019 GHG Verification Statement.pdf

**Page/ section reference**

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**C10.1c**

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

**Scope 3 category**

Scope 3: Purchased goods and services

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Capital goods

---

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 capital goods emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

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

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 Fuel- and Energy-Related Activities emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Upstream transportation and distribution

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 upstream transportation and distribution emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Waste generated in operations

**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**

Cummins 2019 GHG Verification Statement.pdf

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**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 waste generated in operations emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 business travel emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Employee commuting

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 employee commuting emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Upstream leased assets

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 upstream leased assets emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Downstream transportation and distribution

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Processing of sold products

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

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**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**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: End-of-life treatment of sold products

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

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**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Downstream leased assets

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 downstream leased assets emission data is presented on page 1.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Investments

**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**

Cummins 2019 GHG Verification Statement.pdf

**Page/section reference**

Apex Companies, LLC (Apex) conducted an independent verification of global greenhouse gas (GHG) emissions in 2019 from sources within Cummins' operational control. Limited assurance was provided on the basis of the ISO 14064-3 reference standard and criteria from the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD). Scope 3 investments emission data is presented on page 2.

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**C10.2**

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

Yes

**C10.2a**

---

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C9. Additional metrics	Other, please specify (Waste Recycling Rate)	Limited assurance was provided on the basis of the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after Dec. 15, 2015), issued by the International Auditing and Assurance Standards Board.	Apex Companies, LLC (Apex) conducted an independent verification of waste data reported in 2019 for facilities within Cummins' operational control. The determination and fair presentation of the waste quantities was the responsibility of Cummins. Apex's sole responsibility was to independently verify the accuracy of the waste quantities reported and the underlying systems and processes used to collect, analyze and review the information. Cummins 2019 Waste Verification Statement.pdf

Cummins  
2019 Waste  
Verification  
Statement.pdf

**C11. Carbon pricing**

**C11.1**

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

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

**C11.2**

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

No

**C11.3**

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

Yes

**C11.3a**

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

**Objective for implementing an internal carbon price**

- Change internal behavior
- Drive energy efficiency
- Drive low-carbon investment

**GHG Scope**

- Scope 1
- Scope 2

**Application**

The internal carbon price is built into the Cummins financial analysis tool, which is mandatory for all energy and GHG emission projects at both the corporate and business unit level.

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

7

**Variance of price(s) used**

The Cummins carbon price is applied for all projects, except where local carbon taxes exceed the corporate price; in these cases, the local price is applied.

**Type of internal carbon price**

Shadow price

**Impact & implication**

The internal carbon price is built into the Cummins financial analysis tool, which is mandatory for all energy and GHG emission projects.

**C12. Engagement**

## C12.1

---

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

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

## C12.1a

---

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

#### Type of engagement

Compliance & onboarding

#### Details of engagement

Included climate change in supplier selection / management mechanism  
Climate change is integrated into supplier evaluation processes

*We do have a Code of Conduct that covers HSE, ethical labor practices, sustainability which includes reductions in water waste and energy.*

#### % of suppliers by number

20

#### % total procurement spend (direct and indirect)

17

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

1

#### Rationale for the coverage of your engagement

1. Supplier Selection - We re-bid on-average approximately 20% of total contracts each year and include in these bids our HSE requirements including sustainability requirements and Supplier Code of Conduct requirements. RFP criteria is weighted to include HSE/Diversity criteria, usually with about a 5% weighting. Our sustainability requirements include a commitment from the supplier to follow our Green Supply Chain Principles below: The Principles (posted on our Supplier Portal at <https://public.cummins.com/sites/CSP/en-us/Pages/Green-Supply-Chain-Principles.aspx>) 2. Code of Conduct - Our supplier codes of conduct, covering environmental, worker safety, and ethics criteria are audited annually. In 2018 11,982 total revised codes of conduct were signed by suppliers and in 2019 2454 new codes of conduct were signed, or 99% of new suppliers onboarded. Additionally, by end of 2019 60% (704 suppliers) of our planned 1182 3 year goal level of suppliers were audited for code of compliance adherence by way of on-site audits covering specific HSE criteria. Our Supplier Code of Conduct is an agreement signed by suppliers agreeing to our requirements in the following areas: a. Ethics / Treatment of Workers / Conflicts of Interest / Intellectual Property Protection b. Safe / Healthy workspaces c. Protection of the Environment - meet local regulations, minimize environmental impact and drive continual improvement, and suppliers must maintain documentation showing emissions, compliance, environmental risks and environmental sustainability metrics. Additional procedures must be in place to manage environmental emergencies d. Conserving natural resources - suppliers must maintain documentation showing resource consumption 3. Integration in Supplier Evaluation Processes: After award of a contract, our standard agreements confirm the supplier's intention to follow these principles. Our top, strategic suppliers are scored a total of 8 out of 100 points for their progress in achieving environmental impact improvements in their operations.

#### Impact of engagement, including measures of success

The measure of success is that 100% of work/services bid each year consider HSE/Diversity/Sustainability capability and performance of the supplier as part of a balanced overall selection process. Requiring suppliers to submit information on their environmental management certifications, accomplishments and programs sends a clear message that sustainability principles are important to Cummins. We are currently updating our internal purchasing processes in 2020 to ensure these criteria cover all sourcing activity. Additionally, after selecting suppliers, we conduct an annual scorecard exercise with our top 12-15 suppliers to rate suppliers across a range of criteria including Sustainability efforts. Their score affects their ability to maintain and win new business with Cummins.

#### Comment

---

#### 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

1

#### % total procurement spend (direct and indirect)

1

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

1

#### Rationale for the coverage of your engagement

In 2019-2020 we expanded our Environmental Gateway program in Purchasing which allows innovative suppliers to pitch their ideas to Cummins management in a Shark Tank format to help us achieve our environmental goals, mainly focussed on facilities and operations and packaging, winners are presented by an internal/external judging panel including Sustainability experts with Indiana and Purdue University etc, The top 10 ideas are considered for trials at Cummins plants to confirm the viability / impact of the ideas/products/services, and successful ideas are promoted within Cummins for broader adoption. Four ideas from the recent Gateway are in final pilot stage.

#### Impact of engagement, including measures of success

The Gateway program opens the door for diverse and innovative suppliers to introduce new technologies to Cummins outside our existing supply base to ensure we remain open to cutting edge technologies and services that will help us achieve our environmental goals. To date, our UK Gateway program has trialed and implemented four successful supplier innovations from furniture recycling to more energy efficient hand dryers in restrooms as well as energy recovery technologies from our test operations. Our US program is in the late evaluation/pilot stage with at least two new technologies that have passed initial pilot goals including Building Clarity which uses artificial intelligence technology to assess broad building performance data to identify energy and water usage savings. At an analysis cost of \$120,000, the resulting improvements reduce 405 tons of GHGs, a savings of 1.9M gallons of water, and additional electricity savings of \$40,000/yr. Another innovation from Crosstek implemented in 2019



involves a hybrid water filtration system to help us reach our water re-use goals at a major manufacturing plant. This success saves 15 million gallons of water annually from being deposited in the sewer from the plant saving \$840,000 year in water costs.

**Comment**

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**Type of engagement**

Information collection (understanding supplier behavior)

**Details of engagement**

Collect climate change and carbon information at least annually from suppliers

**% of suppliers by number**

0.05

**% total procurement spend (direct and indirect)**

22

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

**Rationale for the coverage of your engagement**

1. We have an annual scorecard with our top 12-15 strategic suppliers representing \$3B/year in spend with 8 points out of 100 for Sustainability plus diversity. The current metrics relate to CDP water disclosure and ISO140001 certification encouraging suppliers to have a sound environmental management system in place. Their points allow them to win and expand business with Cummins. 2. Future iterations of the scorecard will advance to reporting certain goals related to water, energy and waste reduction based on the suppliers opportunity levels based on type of operations they conduct.

**Impact of engagement, including measures of success**

The measure of success is for 80% of our suppliers to achieve all 8 points in the Sustainability category. Current achievement level is 50% of suppliers achieving these points. The ultimate impact is that suppliers are better fulfilling our expectations related to our Green Supply Chain Principles mentioned above in the Compliance section.

**Comment**

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**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Run an engagement campaign to educate suppliers about climate change  
Climate change performance is featured in supplier awards scheme

**% of suppliers by number**

100

**% total procurement spend (direct and indirect)**

100

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

**Rationale for the coverage of your engagement**

1. Engagement campaign - a 2020 goal is to share environmental best practices with our entire supply base representing 32,000 suppliers and \$14B in annual spend via our Supplier Portal at [www.cummins.supplier.com](http://www.cummins.supplier.com). This best practices portal will share case studies of our 15 year journey in Environmental Sustainability including how we develop our own goals, how we have prioritized and developed funding options for capital projects that have helped us improve our environmental footprint including water usage and recycling improvements, energy reduction in manufacturing plants, LED lighting and solar array campaigns, PPA wind farm agreements/programs, and many facility-related improvements including improved design features for new buildings and facilities. We will share highlights of the environmental benefits, costs and savings achieved in these projects. We will also seek and share best practices from key suppliers who are willing to also share their best practices. a. We will provide periodic push communications to suppliers to encourage their use of the this database b. We will periodically highlight special project case studies via emails to suppliers with a Sustainability theme. c. Finally, for suppliers who want more information, we plan to connect them with subject matter experts that can answer questions on specific case study projects 2. Awards - Cummins conducts annual regional Supplier Conferences and includes awards in various categories. One category we have been awarding is for Outstanding Sustainability Achievements since 2017. While these conferences have been cancelled for 2020, we expect to resume them for 2021.

**Impact of engagement, including measures of success**

The impact will be to encourage our suppliers to raise the priority of their own sustainability efforts as well as send a clear message to our supply base that environmental sustainability is a priority for Cummins and our expectations are high for our suppliers. Measure of success will be broad feedback and success stories from our suppliers based on the learning and encouragement they receive from our shared information.

**Comment**

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C12.1b

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

**Type of engagement**

Collaboration & innovation

**Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

**% of customers by number**

20

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

5

**Portfolio coverage (total or outstanding)**

<Not Applicable>

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

Greenhouse gas (GHG) emissions from Cummins products in use are the company's largest environmental impact and represent an estimated 99 percent of Cummins' GHG footprint due to fossil fuel use. Cummins' biggest opportunity to expand its product stewardship beyond the upfront design of its products is in working with customers to improve the efficiency of the company's products in use. One of Cummins' sustainability plan goals is to partner with its customers to improve the fuel efficiency of the company's products in use, and by extension reduce carbon dioxide (CO2).

**Impact of engagement, including measures of success**

Cummins fuel teams throughout the world implemented many new products in use projects in 2019, bringing the total number of initiatives with customers since 2014 to close to 300. The company surpassed its 2020 goal of achieving an annual run rate reduction of 3.5 million metric tons of CO2. The 2019 rate was 4.3 million metric tons. Performance in 2019 built on global momentum, with the launching of new initiatives, better fuel economy improvements and an increase in Distribution segment projects. Global fuel economy teams have been building functional capability via fuel economy forums, training and tools. In meeting this goal, the company expect to cut CO2 emissions by nearly 24 million metric tons, saving customers up to \$7 billion through greater fuel efficiency, by the end of 2020. By 2020, Cummins expects to work with 20 percent of its customer base, touching nearly 2 million engines as it tailors engine specifications to customer applications. The company wants to ensure customers have the latest tools to improve fuel efficiency.

**C12.1d**

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

Cummins believes in partnering with others to achieve innovation in its products. We partner with many academic institutions, nongovernmental organization and government entities on new product technology and policy advocacy. Some current examples of partnership with the U.S. Department of Energy are 1) the SuperTruck II program with Peterbilt and Eaton to demonstrate advanced engine, drivetrain, and vehicle technologies for Class 8 line-haul trucks and 2) an advanced platooning project (in conjunction with National Renewable Energy Laboratory, Michelin and Clemson University) to assess real-world fuel savings potential and actively address barriers to widespread market acceptance of platooning.

**C12.3**

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

Direct engagement with policy makers  
Trade associations

**C12.3a**

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (Climate change)	Support	Cummins executives have testified in front of the House Select Committee on Climate Crisis and the House Energy and Commerce Environment and Climate Change Subcommittee on how comprehensive climate change policy can drive cleaner solutions for the segments in which Cummins products operate.	Tax policy to promote alternative fuel powertrains and infrastructure; significant investment in alternative fuel corridors; significant funding for DOE's Office of Energy Efficiency and Renewable Energy
Other, please specify (Air quality)	Support	Cummins has worked with EPA and industry to provide feedback in EPA's Cleaner Trucks Initiative Advanced Notice of Proposed Rulemaking to lower the NOx standard for HD On Highway Engines	EPA national rulemaking under Clean Air Act Authority.
Energy efficiency	Support	Cummins is a member of Department of Energy Better Buildings, Better Plants Program and is active in various industrial energy efficiency groups, both sector specific and general at national and regional levels.	We promote and model industrial energy efficiency practices and are active with several government programs for energy efficiency.
Energy efficiency	Support	Cummins pledged support for a new Energy Management Campaign. This campaign is an effort of CEM and the International Partnership for Energy Efficiency Cooperation to spur international collaboration with a goal of 50,001 global certifications by 2020. Cummins will achieve ISO 50001 certification at a total of 40 sites by 2020. These 40 sites represent 90 percent of Cummins' energy footprint.	This campaign is an effort of CEM and the International Partnership for Energy Efficiency Cooperation to spur international collaboration with a goal of 50,001 global certifications by 2020.

## C12.3b

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

Yes

## C12.3c

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

#### Trade association

Advanced Energy Economy

#### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

AEE is an organization of businesses using policy advocacy, analysis, and education to bring about a prosperous economy based on secure, clean, affordable energy.

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

We are in agreement with their position.

---

#### Trade association

China Internal Combustion Engine Industry Association

#### Is your position on climate change consistent with theirs?

Mixed

#### Please explain the trade association's position

Without comprehensive national climate change legislation, the Company cannot determine the association's position at this time. The association supports national efforts to reduce fuel consumption.

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

Cummins has worked within CICEIA on fuel consumption activities, NS VI emission standard readiness and how to ensure industry-wide compliance in China.

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#### Trade association

Confederation of Indian Industry

#### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

The trade association supports international cooperation on climate change with nationally-determined pledges. Without comprehensive national climate change legislation, the Company cannot determine this group's position at this time.

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

Cummins works actively within the Confederation of Indian Industry (CII) to build consensus about the business value of addressing climate change and to advocate for stricter emissions standards. The Company's Vice President and Chairman of Cummins India Limited chairs CII's Manufacturing Committee and the Vice President of Indian Government Relations serves on CII's National Committee on the Environment, both of which influence the association's position. CII advocates for the industry's viewpoint on climate change to the Indian Foreign Ministry and Ministry of Environment, Forest and Climate Change through direct lobbying opportunities such as the COP21 negotiations in Paris in 2015.

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#### Trade association

The Diesel Technology Forum

#### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

Advanced and renewable diesel technologies can be an effective part of addressing climate change.

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

Cummins works actively in the DTF to encourage it to be supportive of fuel economy in vehicles and of energy efficiency programs in our sector.

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#### Trade association

The Engine Manufacturers Association

#### Is your position on climate change consistent with theirs?

Consistent

#### Please explain the trade association's position

EMA supports effective rulemaking to promote the most advanced technologies, and significant funding to promote alternative fuel infrastructure, research, development and deployment.

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

Cummins works actively in the EMA to encourage it to be supportive of engine efficiency and of energy efficiency programs in our sector.

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#### Trade association

The National Association of Manufacturers

#### Is your position on climate change consistent with theirs?

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Consistent

**Please explain the trade association's position**

NAM supports the goals of the Paris Climate Agreement and supports a market based mechanism to internalize the social cost of carbon

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

Cummins works actively in NAM to encourage it to be supportive of fuel economy in vehicles and of industrial energy efficiency programs in our sector. The company is encouraging the organization to work more collaboratively with the EPA. Cummins' chief operating officer is on the board of directors.

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**Trade association**

U.S. Chamber of Commerce

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The Chamber of Commerce supports the goals and US participation in the Paris Climate Agreement.

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

Cummins works actively with the US Chamber to encourage them to be supportive of policies that address climate change.

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**Trade association**

The American Trucking Association

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Cummins works with ATA to encourage regulatory and legislative programs to reduce CO2 and NOx emissions from trucks.

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

Cummins works actively in the ATA to encourage it to be supportive of fuel economy in vehicles and of energy efficiency programs in our sector

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**Trade association**

The Business Roundtable

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

BRT supports the goals of the Paris Climate Agreement and supports a market based mechanism to internalize the social cost of carbon.

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

Cummins has been a voice for climate change action in the BRT for more than a decade.

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**Trade association**

The Hydrogen Council, the US Fuel Cell Hydrogen Energy Association, the California Hydrogen Business Council and Hydrogen Europe

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The Hydrogen Council and regional Hydrogen and Fuel Cell Associations support policies globally that encourage adoption of clean hydrogen and fuel cell technology to address climate change.

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

Cummins is an active participant in the Hydrogen Council, with Cummins' CEO serving on the Board, and regional associations promoting policies that encourage clean hydrogen and fuel cell technology adoption to address climate change.

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C12.3f

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

The Company has several groups and processes in place to ensure that our advocacy is consistent with our environmental and climate strategies. A Cummins team called Environmental Policy & Strategic Planning exists to analyze major environmental strategic opportunities and risks that affect the company globally; direct work with internal and external stakeholders to shape stances and positions on environmental affairs that impacts Cummins; and coordinate efforts across complex environmental issues to ensure consistency and adherence to our environmental and climate strategies across all activities including public policy advocacy. This team uses robust processes and guiding principles to direct Cummins' environmental policy actions. Whether the policy we are influencing is a regulation that focuses on reducing criteria pollutants, greenhouse gas emissions (GHG) or improving fuel efficiency, Cummins' policy principles ensure that we always advocate for tough, clear, and enforceable policy. These principles and our environmental mission apply to all direct and indirect activities including external relations, partnerships, and advocacy.

In addition to our environmental policy principles and processes, the Action Committee for Environmental Sustainability (ACES) shapes the activities and goal-setting of the stakeholder areas for product in use and in design, facilities and operations, internal supply chain (logistics and packaging), employee engagement and communications and marketing. Through processes such as monthly meetings, goal tracking, and disclosure, ACES ensures that the 10 environmental sustainability principles listed below are used to develop and adhere to Cummins' climate strategy, whether internal Company actions or external engagement.

The Company has 10 environmental sustainability principles - with the last four focusing on policy:

- Develop clean, efficient products
- Grow and develop new businesses
- Develop environmentally sustainable supply chains
- Make work spaces green spaces.
- Harness the energy of employees
- Engage in the community
- Help develop responsible regulations.
- Promote technology development.
- Advocate for incentives to accelerate progress
- Support a balanced global approach.

**C12.4**

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

**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

SPR2020 2019 Sustainability Progress Report 8132020.pdf

**Page/Section reference**

20-32

**Content elements**

Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

SPR2020 2019 GRI Content Index and Data Report 8132020.pdf

**Page/Section reference**

27-47

**Content elements**

Governance  
Strategy  
Emissions figures  
Emission targets  
Other metrics

**Comment**

**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

PLANET 2050\_Strategy\_1209.pdf

**Page/Section reference**

1-23

**Content elements**

- Governance
- Strategy
- Risks & opportunities
- Emission targets
- Other metrics
- Other, please specify (rationale for strategy, development of strategy)

**Comment**

---

**Publication**

In other regulatory filings

**Status**

Complete

**Attach the document**

2019 10-K.pdf

**Page/Section reference**

12-13

**Content elements**

- Governance
- Strategy

**Comment**

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**Publication**

In voluntary communications

**Status**

Underway – previous year attached

**Attach the document**

cummins-2018-product-stewardship-07012019-1.pdf

**Page/Section reference**

2-10

**Content elements**

- Strategy
- Emissions figures
- Emission targets
- Other metrics

**Comment**

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C15. Signoff

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C-FI

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

C15.1

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

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

SC. Supply chain module

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## 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	23600000000

## SC0.2

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

Yes

## SC0.2a

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

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	2310211063

## 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**

Alphabet, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

900000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.

**Requesting member**

AT&T Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

50000

**Uncertainty (±%)**

20

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.

**Requesting member**

CNH Industrial NV

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO2e**

4000000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the energy content of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.

**Requesting member**

Daimler AG

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO2e**

700000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.



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**Requesting member**

Fiat Chrysler Automobiles NV

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

1000000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.

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**Requesting member**

Ford Motor Company

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

400000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO2e (carbon dioxide equivalent) and then applies the CO2 conversion factor for diesel based on the EPA's EF hub and AR 4.

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**Requesting member**

Microsoft Corporation

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

900000

**Uncertainty (±%)**

10

**Major sources of emissions**

Products in their use phase

---

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO<sub>2</sub>e (carbon dioxide equivalent) and then applies the CO<sub>2</sub> conversion factor for diesel based on the EPA's EF hub and AR 4.

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**Requesting member**

Nokia Group

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO<sub>2</sub>e**

50000

**Uncertainty (±%)**

20

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO<sub>2</sub>e (carbon dioxide equivalent) and then applies the CO<sub>2</sub> conversion factor for diesel based on the EPA's EF hub and AR 4.

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**Requesting member**

U.S. General Services Administration - OMB ICR #3090-0319

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

&lt;Not Applicable&gt;

**Emissions in metric tonnes of CO<sub>2</sub>e**

100000

**Uncertainty (±%)**

15

**Major sources of emissions**

Products in their use phase

**Verified**

No

**Allocation method**

Allocation based on the volume of products purchased

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

For the lifetime emissions calculation, Cummins starts with engine volumes, both consolidated and joint venture, by segment and engine model sold in the reporting year. It then multiplies by the attrition rate to determine the volumes in operation each year going forward. Cummins determines the attrition rate using the company's parts consumption model and customer engineering analysis. Cummins applies the efficiency age factor to years going forward to determine the yearly miles per gallon. It then converts miles per gallon or gallons per hour to metric tons of CO<sub>2</sub>e (carbon dioxide equivalent) and then applies the CO<sub>2</sub> conversion factor for diesel based on the EPA's EF hub and AR 4.

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SC1.2

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

[https://www.cummins.com/sites/default/files/2020-01/PLANET%202050\\_Strategy\\_1209.pdf](https://www.cummins.com/sites/default/files/2020-01/PLANET%202050_Strategy_1209.pdf)

PLANET 2050 strategy document, page 11.

**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
Customer base is too large and diverse to accurately track emissions to the customer level	Customer base is too large and diverse to accurately track emissions to the customer level Cummins and its joint venture partners sell more than one million engines per year. While our GHG model is sophisticated, it must make assumptions about the in use mileage and application of each engine it sells. What could help overcome challenges would be a device on the engine that would report fuel burned to both the user and the manufacturer.

**SC1.4**

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

Yes

**SC1.4a**

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

Cummins is using the convergence of telecommunications and information technology to provide customers the information they need to work more efficiently, increasing uptime and decreasing costly downtime.

Cummins' Connected Diagnostics™, for example, enables the company to communicate with its engines to recommend actions the moment an engine system fault occurs.

Launched in 2014, Connected Diagnostics instantly transmits key engine and GPS data through a telematics connection, immediately applying Cummins' analytics to transform the data into actionable information.

A diagnosis of the fault, and clear recommendations regarding the continued vehicle operation are sent instantly to the operator or fleet manager.

Connected Diagnostics is part of a suite of products Cummins offers through the use of telematics. Connected Advisor™, a service enabled by Connected Diagnostics, helps fleet managers and operators prioritize recommendations to determine whether something requires immediate attention or can be scheduled a few days out.

Connected Software Updates™ deliver secure software updates for engine calibrations over-the-air, without a trip to the repair shop.

Over time it is possible that telematics will be able to precisely track fuel burned by each Cummins engine out in the field.

**SC2.1**

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

**SC2.2**

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

No

**SC3.1**

**(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?**

No

SC3.2

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(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?

No

SC4.1

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

No, I am not providing data

Submit your response

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In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms