Tenneco - Climate Change 2022

C0. Introduction

C0.1

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

Our company, Tenneco Inc., designs, manufactures, markets, and distributes products and services for light vehicle, commercial truck, off-highway, industrial, motorsport, and aftermarket customers. We manufacture innovative performance solutions, clean air and powertrain products and systems, and serve both original equipment (“OE”) manufacturers and the repair and replacement markets worldwide. We were incorporated in Delaware in 1996.

Tenneco consists of four operating segments, Motorparts, Performance Solutions, Clean Air, and Powertrain:

• The Motorparts segment designs, manufactures, sources, markets, and distributes a broad portfolio of leading brand-name products in the global vehicle aftermarket while also servicing the original equipment service (“OES”) market. Motorparts products are organized into categories, including shocks and struts, steering and suspension, braking, sealing, emissions control, engine, and maintenance. Motorparts products are marketed and sold under brand names including Monroe®, Champion®, Öhlins®, MOOG®, Walker®, Fel-Pro®, Wagner®, Ferodo®, Rancho®, Thrush®, National®, Sealed Power®, and others;

• The Performance Solutions segment designs, manufactures, markets, and distributes a variety of products and systems designed to optimize the ride experience to a global OE customer base, including noise, vibration, and harshness (“NVH”) performance materials, advanced suspension technologies (“AST”), ride control, braking, and systems protection. Performance Solutions is agnostic to powertrain technologies;

• The Clean Air segment designs, manufactures, and distributes a variety of products and systems designed to reduce pollution and optimize engine performance, acoustic tuning, and weight on a vehicle for light vehicle, commercial truck, and off-highway OE customers; and

• The Powertrain segment designs, manufactures, and distributes a variety of OE powertrain products for light vehicle, commercial truck, off-highway, and industrial applications to OE customers for use in new vehicle production and OES parts to support their service and distribution channels.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	Yes	2 years

C0.3

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

Argentina
Australia
Belgium
Brazil
Canada
China
Czechia
France
Germany
Hungary
India
Italy
Japan
Mexico
Morocco
Philippines
Poland
Portugal
Republic of Korea
Romania
Russian Federation
South Africa
Spain
Sweden
Thailand
United Kingdom of Great Britain and Northern Ireland
United States of America
Viet Nam

C0.4

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

USD

C0.5

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

Operational control

C0.8

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

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

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board-level committee	The Board oversees our corporate responsibility and sustainability in the annual ESG review. Management annually provides a comprehensive strategic review to the Board, including a discussion of the major risks faced by our company and our strategies to manage these risks, including those associated with economic, environmental and social topics. While ultimate oversight for ESG topics falls under the purview of the entire Board, each Board committee has various responsibilities connected to sustainability matters. For example, the Nominating and Governance Committee reviews, policies and strategies related to ESG, and reviews our quarterly progress, including as it relates to our annual Sustainability Report. Please see our Proxy Statement and CSR report for additional examples of Board and Committee oversight. Their responsibilities are described in their public charter whereby reference to 'sustainability' includes all climate-related issues. Tenneco's cross-functional ESG Council is chaired by the Global Director of Corporate ESG, advises management teams on progress and determines how to drive long-term stakeholder value. It is comprised of functional leaders from Environmental Health and Safety, Legal, Human Resources and Talent Management, Finance, Engineering, Supply Chain, and Logistics. Our Senior Vice President and Chief ESG Officer reports progress to the CEO, the Board, and its committees frequently. This role is a member of the executive management team, holds the ultimate responsibility of overseeing our sustainability goals and KPIs, drives a cross-functional ESG program and collaborates with other executive leaders to implement our sustainability strategy. This enables a holistic approach to ESG, compliance, and risk management at Tenneco. In 2021, the Board and its committees supported management to make several major climate-related decisions: 1) Appointed a dedicated ESG team, including a Senior Vice President and Chief ESG Officer 2) Established the Energy and Supply Chain Councils to help operationalize our goals. 3) Published a new Supplier Code of Conduct to communicate our requirements related to corporate social and environmental responsibility 4) Initiated Scope 3 emissions calculation

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Overseeing major capital expenditures, acquisitions and divestitures	<Not Applicable>	Our Board recognizes that, although risk management is primarily the responsibility of the company's management team, the Board plays a critical role in risk oversight, including the identification and management of risk. The Board's involvement in risk oversight involves the full Board and all three committees. In general, management provides an annual comprehensive strategic review to the Board, which includes a discussion of the major risks faced by our company and our strategies to manage these risks, including those associated with economic, environmental and social topics. In general, our SVP ESG provides a quarterly update on ESG matters and reports directly to the Nominating and Governance Committee who then reports to the full Board. Additionally, our SVP ESG provides updates to the Board directly, as needed.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	One of Tenneco's Board members has extensive experience in the lithium-ion battery manufacturing sector. Her leadership experience at the forefront of battery technology brings valuable insight into the future direction of the automotive industry to Tenneco, and into risks and opportunities related to the energy transition. Two other Board members come from companies with mature ESG programs, General Motors and CooperStandard.	<Not Applicable>	<Not Applicable>

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify (Senior Vice President and Chief Environmental, Social and Governance (ESG) Officer)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Quarterly
Other C-Suite Officer, please specify (Executive Vice President, Chief Human Resources)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	As important matters arise
Other, please specify (Executive Leadership Team members.)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	As important matters arise

C1.2a

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

Our Executive Leadership Team holds ultimate responsibility for climate-related issues within their oversight of ESG (environmental, social and governance) as a whole. The Executive Leadership Team is formed of C-Suite individuals with responsibility for oversight of our different business units (Motorparts, Clean Air, Powertrain and Performance Solutions), and operating/ support systems (HR, EHS & S, Communications, Supply Chain, Information and ESG). The Executive Leadership Team is responsible for the review, evaluation and update of our sustainability goals and key performance indicators within our business units.

Within the Executive Leadership Team, the Senior Vice President and Chief ESG Officer takes additional individual responsibility for driving our climate related response. This individual drives our ESG strategy enterprise goals, and reports directly to the CEO. The ESG council is led by the ESG Director and formed of functional leaders from Environmental Health and Safety, Legal, Human Resources, Talent Management, Finance, Engineering, Supply Chain and Logistics. The ESG council advises the Executive Leadership Team on progress and determines how to drive long-term shareholder value. The SVP and Chief ESG Officer's role enables a holistic approach to ESG, compliance and risk management and promotes alignment across Tenneco. Assessment, monitoring and alignment across Tenneco of climate-related risks and opportunities is a specific focus for this individual. The Executive Vice President, Chief Human Resource Officer (CHRO) oversees Tenneco's Environmental, Health, and Safety (EHS) activities and reports directly to the Chief Executive Officer. The role of VP of Environmental, Health & Safety, and Corporate Security was established as a direct report to the CHRO. This role leads the EHS division with direct oversight and responsibility of our climate-related operational goals, including our greenhouse gas reduction, energy efficiency and renewable energy goals, responsibility for developing strategies and implementing initiatives to ensure successful achievement of these goals. The EHS team is staffed with a Global Sustainability Leader and a Global Sustainability Analyst for leading and coordinating our climate related data collection. Climate-related data and performance reporting is collected at site and regional level (depending on the data type). This is in turn collated, reported and signed off by EHS leads of each of our four business units, who report performance and progress on climate-related issues via our Enterprise level EHS team through to the EVP, CHRO.

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	Employees across the business have environmental and climate related targets integrated into their personal goals. Successful achievement of these targets and goals contribute to career development and progression, which could result in enhanced financial reward.

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
All employees	Monetary reward	Behavior change related indicator	One of Tenneco's core corporate values is "Make Tomorrow Better" – and one way we do that is through our Global Corporate Social Responsibility and Sustainability programme. During 2020, we have created a strategy and roadmap towards "Making Tomorrow Better" which is divided into three key pillars: People, Planet and Products. By way of monetary incentive, we recognize the contributions initiated and made by our employees around the world through the TEN10 program. This program celebrates those who exemplify leadership through our shared values out in their communities (this may be through participation in local events, fundraisers, or philanthropic contributions). As such, TEN10 awards may be made for community-based activities that are aligned with climate-related and environmental issues. Projects that result in decreased energy or water use, GHG emissions or less waste will also qualify for submission. Each year, we recognize ten individual finalists and one team as exceptional examples of our values in action. Winners received a $1,000 check and a donation of $10,000 to a cause of their choice, for a total of $110,000 in donations. Their stories exemplify Tenneco culture, which is united by a common vision, shared values, and a commitment to always operate with the highest ethics and integrity everywhere we do business.
All employees	Monetary reward	Behavior change related indicator	Employees across the business have environmental and climate related targets integrated into their personal goals. Successful achievement of these targets and goals contribute to career development and progression, which could result in enhanced financial reward.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	3	Tenneco's annual operating plan (AOP) includes detailed initiatives on revenue, margin, product development, and CapEx spending which are aligned with short-term regulatory risks and technology needs of the customer.
Medium-term	3	10	The business units' strategic plans identify and plan for opportunities in the 3-to-10-year timeframe using medium terms growth forecast projections for future regulations and technologies.
Long-term	10	50	Corporate strategic plan and portfolio decisions look at 10 + year growth forecast projections for clean air regulations and technologies.

C2.1b

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

Those material risks and opportunities that pose the greatest financial and strategic risk to our business are sub-categorised (business, operational and financial; industry; intellectual property and legal risks and opportunities) and our responses to these are summarized in our annual public 10K reporting, per SEC guidelines. For our risks we rate, review and manage against several dimensions: risk impact, risk likelihood, risk velocity and our management preparedness for that risk should it happen.

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
Our company-wide Enterprise Risk Management (ERM) process is updated annually and fully refreshed every two years,and includes climate-related risks and opportunities as part of our review and management of forthcoming ESG issues. Our Audit committee reviews and discusses the company's major financial risk exposures, and the steps management has taken to monitor and control those exposures; reporting directly to the Board of Directors on the results of those discussions. Typically, the Audit Committee and Board of Directors review and ensure strategic response to our medium-term and long-term climate related risks and opportunities. Those material risks and opportunities that pose the greatest financial and strategic risk to our business are sub-categorised into different categories: business, operational and financial; industry; intellectual property and legal risks and opportunities. We assess risks against several dimensions: risk impact, risk likelihood, risk velocity and our management preparedness for that risk should it happen. Risks and opportunities related to our direct operations, and upstream and downstream considerations are taken into account. Examples of these are as follows: Direct operations– continuity of energy supply; natural disasters and severe weather causing supply chain and/or disruption to direct operations; change of after-market product mix in the face of severe winter weather; staff retention, Upstream– increasing/ volatile fuel and utility prices; stricter market level Government regulation around vehicles emissions and removal of fossil fuel vehicles from sale; climate related tax considerations; cost of current / future legal action around environmental waste / remediation and pollution control. Downstream- changing consumer demand for ICE (internal combustion engine vehicles) versus electrification; dependency on large customers that are changing their own product mix and operations to respond to climate-related risks and opportunities i.e. public declarations from OEMs seeking carbon neutrality by 2040 and phase out of fossil fuel vehicles by 2035; the opportunity posed through innovation in relation to future electrification, autonomy and shared mobility in vehicles. Rolling up into our integrated risk management approach, at a business unit and asset level, we manage a greater volume of more localised climate related risks and opportunities. These risks and opportunities are typically those that have a short- and medium-term horizon; and as such are reviewed more than once per year as the impacts are near term and require faster response. Our business unit EHS Leads and Business Unit Engineering leaders track and manage the outcomes of climate related risks and opportunities presented in our operations, upstream and downstream of our business for example: local energy supply issues, local environmental regulation; local product regulation; product development opportunities and direct / indirect change to consumer demand for our different lines, mitigation of climate change impacts in our supply chain. At an asset level, we manage climate-related risks and opportunities through our ISO accredited management systems. As of 2021, 84% of our global manufacturing sites are accredited to ISO 14001 (environmental) and 12% have ISO 50001 (energy). This enables local risks and opportunities to be monitored on a continuous improvement basis, ensuring internal and external audit of system content and controls, and providing a clear communication channel for escalation of risks and opportunities from asset level, through our business unit EHS Leads back to the central Enterprise level (if required). Our asset level response to impending risks and opportunities is key to us meeting our global climate related targets. Our responses to these risks are summarized in our annual public 10K reporting, per SEC guidelines. At the Executive Leadership Team level, through our Senior Vice President and Chief ESG Officer and Customer Relations teams, we interface with external stakeholders to our business, through which we identify emerging climate related risks and opportunities. These are explored for integration into our ERM system where they require management and response. These may be identified through: active engagement with our customers (the OEMs), active engagement with our upstream suppliers through conferences and action groups, response to questions from investors at shareholder meetings, or customer requests through EcoVadis/CDP. Finally, in 2020 we also commissioned and completed an independently conducted ESG materiality assessment which helped us to prioritize our climate-related risks and opportunities alongside wider social and governance needs. This involved engagement with 40 cross-functional leaders from around our business to ensure the most up-to-date view has been formed. To ensure a holistic market view we included direct competitors, peers, customers and manufacturers from similar markets that we consider to embody best practice. Case study: Physical risk: Through our annual insurance review process, we receive asset level recommendations in respect of our risk exposure to physical risks such as flooding, storm damage, wider extreme weather and seismic events depending on property location. The risks are clearly categorised, ranked and loss expectancy / cost to address are calculated. We respond to the recommendations of this assessment as appropriate. Case study: Transition risk: Through our ERM system, we manage upstream environmental regulation. As such we are aware that according to the U.S. Environmental Protection Agency, we may be a potentially responsible party ("PRP") for the cost of remediating hazardous substances pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). PRP designation typically requires the funding of site investigations and subsequent remedial activities. Many of the sites that are likely to be the costliest to remediate are often current or former commercial waste disposal facilities to which numerous companies sent wastes. Whilst we believe our exposure for liability at these sites is limited, on a global basis, we have also identified certain other present and former properties at which we may be responsible for cleaning up or addressing environmental contamination. As such we are seeking to resolve our responsibilities for those sites for which a claim has been received. As of December 31, 2021, we have an obligation to remediate or contribute towards the remediation of certain sites, including the sites discussed above at which it may be a PRP. Our estimated share of environmental remediation costs for all these sites is recognized in the consolidated balance sheets on a discounted basis. This is identified as $31 million as of fiscal year end December 31, 2021.

C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	We have partnered with a third party to provide a regulatory registry framework for all countries we operate. This framework assesses legal and other requirements associated with our operations in respect of air emissions, climate change, renewable energy, waste management and emergency management. The assessment tools are updated annually. Products: Our Product Development and Launch system identifies regulatory risks and opportunities and considers these in the strategies and roadmap to develop new products through the Tenneco Product Launch System (TenPLUS). Operations: Current climate-related regulation is always relevant to Tenneco. As a global manufacturer, we need to comply with legislation across multiple markets around environmental pollution, emissions controls, protection, biodiversity, emissions and supply chain consideration. This is an integral part of our risk management process. By way of a specific example: Tenneco has operations in 28 different global markets, including Europe. For our largest European manufacturing facilities, where we are near or may exceed the future thresholds for this scheme, we are required to monitor, measure, and retire or trade allocated allowances. As the cap on energy usage / generation capacity is lowered over time (hand in hand with associated emissions), the likelihood of us having to purchase extra carbon allowances increases. As such this climate related legislation is monitored as part of our EHS processes in Europe as it presents financial, operational and reputational risk to our European business.
Emerging regulation	Relevant, always included	Climate related regulation is constantly evolving and being updated. With a global footprint, we must stay abreast of our obligations across our direct operations, upstream and downstream supply chain and across both the short, medium and long term horizon. We have engaged with an EHS related network organization that provides on-going forecasting of environmental, health and safety related changes across the regulatory landscape. For example, jurisdictions around the world have announced plans to limit the production of new diesel and gasoline-powered vehicles in the future. The EU is being pushed by a number of member states to announce sales ban on fossil fuel vehicles by 2030; the UK has already stated this as part of its Green plan. This emerging regulation will impact the vehicles type the OEMS can sell in these jurisdictions in the short-medium turn horizon and as such presents both risk and opportunity to our Clean Air and Powertrain businesses. With this in mind we are regularly reviewing and updating our strategy across all business units to mitigate this risk.
Technology	Relevant, always included	Risk related to not keeping our technology ahead of demand for fuel and emissions economy requirements is constantly evolving. We monitor this risk through our core ERM process, and down through our Business Unit Chief Engineers. Each business unit will review customer feedback, assess market risk and forecasts, and translate customer and market technology requirements into product strategies, road maps and prioritized product plans. Failure to act on these risks may jeopardise contracts in place or risk our customers going to competitors. For example, ensuring we are on top of technology advancements, enables our customers to meet fuel economy regulations and reach their own emission targets for their sustainability programs. Strategies we have in place to mitigate technology risks include: • Supplying parts for all vehicle types, including hybrids and battery electric vehicles; • Reducing noise and vibrations for quieter engines; • Increasing engine efficiencies for commercial truck and off-highway segments; • Reducing copper usage and limiting friction in brakes; and • Reducing vehicle deterioration and waste.
Legal	Relevant, always included	This risk type is currently most applicable in terms of exposure to lawsuits related to our climate-related disclosures and in relation to environmental compliance within our operations. We consider this risk to be closely linked to reputational risk. As previously referenced, we have partnered with a third party to provide a regulatory registry framework for all countries in which we operate. This framework assesses legal and other requirements associated with air emissions, climate change, renewable energy, waste management and emergency management. The assessment tools are updated annually. We have engaged with an EHS related network organization that provides on-going forecasting of environmental, health and safety related changes across the regulatory landscape. Through this ERM system we manage upstream environmental regulation and the possibility of litigation. By way of example, we are aware that according to the U.S. Environmental Protection Agency we may be a potentially responsible party ("PRP") for the cost of remediating hazardous substances pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). PRP designation typically requires the funding of site investigations and subsequent remedial activities. Many of the sites that are likely to be the costliest to remediate are often current or former commercial waste disposal facilities to which numerous companies sent wastes. We believe our exposure for liability at these sites is limited. On a global basis, we have also identified certain other present and former properties at which we may be responsible for cleaning up or addressing environmental contamination. As such we are seeking to resolve our responsibilities for those sites for which a claim has been received. As of December 31, 2021, we have an obligation to remediate or contribute towards the remediation of certain sites, including the sites discussed above at which it may be a PRP. Our estimated share of environmental remediation costs for all these sites is recognized in the consolidated balance sheets on a discounted basis and the liabilities recorded as of December 31, 2021 and 2020 were $31 million and $34 million, respectively.
Market	Relevant, always included	We assess climate risk across our market on a regular basis as we are impacted through exposure in our direct operations (increasing fuel and raw materials prices), upstream (changes to OEM product mix requirements due to their own exposure to regulatory requirements) and downstream (changes in end-consumer preference such as autonomous vehicles, move to electrification). For example, one of our major customers - General Motors (11% of 2021 net sales) recently joined other vehicle manufacturers, including Ford (10% of 2021 net sales), Nissan and Volvo, in committing to becoming carbon neutral after announcing its plans to reach carbon neutrality by 2040 and to stop selling gasoline powered light vehicles by 2035. To achieve these goals, General Motors is investing substantially in electrification. The increased adoption of electrified powertrains could result in lower demand for some of our products. There has also been an increase in consumer preferences for car and ride sharing, as opposed to automobile ownership, which may result in a long-term reduction in the number of vehicles per capita. The evolution of the industry towards connectivity, autonomy, shared mobility and electrification has also attracted increased competition from entrants outside the traditional light vehicle industry.
Reputation	Relevant, always included	Protection of our brand and being recognized as a company with a high culture of integrity is important to us both externally and internally. If we do not manage this risk we may lose market share, fail to maintain the trust of internal and external stakeholders or fail to attract and retain talent in our business. Tenneco business units review customer feedback, assess reputational risk, and translate customer and market requirements into product strategies, road maps and prioritized product plans. Customer and market requirements are subject to and aligned with increasing regulations in fuel economies. For example, our reputation for being at the forefront of the market in relation to energy efficient products, Clean Air technology and the most efficient ICE components is particularly important where this helps our OEM customers to meet their own climate targets. Failure to support these plans could jeopardise future contracts and therefore revenue.
Acute physical	Relevant, always included	In addition to our active emergency preparedness plan which includes plans for all applicable climate related emergencies, we have partnered with a third party to provide real-time emergency event notifications which include natural disasters and acute climate updates. These events are monitored and assessed by our Security team for impact on our operations and shared/communicated appropriately. Given our global property portfolio, we are exposed to extreme weather events when they occur. Our Business Unit EHS Leads are also responsible for keeping track of properties where we are particularly vulnerable to the risk of hurricanes, floods and water security that could affect business operations, for example in the case of continuity of power supply, or concerning supply chain interruption. For example, within the Tenneco Business System, the Integrated Supply Chain element allows logistics to be optimized within our supply chains, which includes assessing physical risks which could disrupt the supply chain. As a second example, impacts from climate extremes such as heat, droughts, floods, cyclones and fires are also review as part of our annual insurance renewal process.
Chronic physical	Relevant, always included	Given our global property portfolio we are exposed to chronic weather events over prolonged periods of time. Our Business Unit EHS Leads keep track of properties where risk of long-term climatic changes such as sustained high temperatures could affect business operations, for example in the case of continuity of power supply or concerning supply chain interruption. For example, in India, some facilities are often exposed to prolonged high temperatures and local infrastructure weaknesses threaten the security of power supply. As such in this jurisdiction, we manage our response using onsite generation and support local grids by exporting spare capacity back. This ensures resilience for our business and provides wider support across the local grid connection, thus also benefiting communities around us.

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

Market	Changing customer behavior

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
Tenneco is dependent on several major vehicle manufacturers such as General Motors and Ford for future revenue. During the fiscal year ended December 31, 2021 – these two customers accounted for 11% and 10% of net sales respectively. The loss of all or a substantial portion of our revenues from these, or our wider large-volume customers could have a material adverse impact on our business. Consumer preferences and government regulations also impact the demand for new light vehicle purchases equipped with our products. For example, if consumers increasingly prefer electric vehicles, demand for the vehicles equipped with our clean air and powertrain products could decrease. Circumstances that could result in a loss of revenues from our large-volume customers include, particularly with respect to original equipment (OE) light vehicle revenue: a) the transition away from the production of gasoline-powered vehicles (such as the most recent announcements by General Motors and Ford) b) transition to electrified powertrains, whether voluntary or mandated. We know that our key clients have recently committed to becoming carbon neutral by 2040 and to stop selling gasoline-powered light vehicles by 2035. The increased adoption of electrified powertrains could result in lower demand for some of our products. As a result Tenneco is developing and capitalizing on opportunities associated with hybrid and more fuel-efficient light vehicles, further diversifying our portfolio into commercial truck, off-highway and industrial production applications, as well as evolving with the electrification of the market.

Time horizon
Long-term

Likelihood
Likely

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)
4700000

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

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

Explanation of financial impact figure
The financial impact is calculated on the basis of 2021 figures with 37% of value-add revenue related to OE light vehicle ICE vehicles. Hypothetically, if there is a 1% decline of OE light vehicle ICE revenue converted to BEV (Battery Electric Vehicles), it could impact 1% of the enterprise Adjusted EBITDA related to OE light vehicle ICE revenue – or up to $4.7 million (37% x $1,273M x 1%).

Cost of response to risk

Description of response and explanation of cost calculation
Although for many years our business was primarily concerned with the ICE (Internal Combustion Engine) vehicle market, across all four of our business units we are now developing products that support the next generation of hybrid and battery electric vehicles. To mitigate loss of customers, and take into account increasing regulation, Tenneco is targeting a shift in value-add revenue mix; moving from the percentage attributable to original equipment (OE) light vehicle ICE (Internal Combustion Engine) products of 39% in 2020 to less than 20% over the long-term horizon. Please see our SEC filings, earnings and investor presentations for more information. Instead, we prioritize investments in light vehicle product lines and applications that have content growth opportunities in light vehicle BEV. For example, approximately a third of the new business pipeline for Performance Solutions focuses on battery electric vehicles or hybrids. In 2021, we launched programs for battery electric vehicles, hybrids or e-bike programs as we facilitate advancements in the industry. We drive advancements and contribute to improvements across a wide spectrum of vehicles, including those that incorporate alternative fuels, because our diverse portfolio of products applies to vehicles with multiple fuel types and propulsion systems. These strategies are being deployed to maintain market share and mitigate the risk of losing our large-volume customers. Case study: in December 2021, Tenneco expanded its portfolio of Monroe® RideRefine™ add-on technologies for passive dampers to include a new tunable end-stop technology that supports global automakers' electrification and vehicle lightweighting strategies. The new Monroe RideRefine Hydraulic Compression Stop (HCS) improves ride comfort and body control by enabling a better trade-off between ride height and end-stroke compression damping. It significantly reduces impact forces transferred to the vehicle body structure near the end of a damper's compression stroke. By controlling peak end-stop force, this technology helps manufacturers reduce the structural requirements of vehicles that typically carry heavier loads – including battery packs.

Comment
Information relating to the 'cost of response to risk' is not available

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
Shift in consumer preferences

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

Company-specific description
The evolution of alternative powertrain technology, including the increased adoption of fully electric and hybrid powertrains, will also create further opportunities for increased ride performance and NVH (noise, vibration and harshness) capabilities, as consumers look for smoother, quieter, and more efficient rides. Engine downsizing and hybridization will lead to a proliferation of NVH requirements per platform as road noise and other NVH properties that were once masked by engine noise become more apparent to consumers. Furthermore, fully electric vehicles (“EVs”) will likely have a suite of fundamentally different NVH, braking, and ride performance requirements. Our capabilities in the suspension, braking, and NVH performance materials categories provide the opportunity to develop solutions to maximize driving comfort, ride performance, and motion management for consumers worldwide in the increasing electrification and hybridization of the global vehicle fleet.

Time horizon
Medium-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact figure
Information not available

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation
We are well-positioned to align our business with this global change, because most of our products in our Performance Solutions and Motorparts business units are fuel-agnostic and therefore can be used on hybrid and battery electric vehicles. Over the mid- to long-term future, we target over 80% of our revenues as unrelated to light vehicle internal combustion engines. By contributing fuel-agnostic components to these vehicles, we integrate our business with this advancing technology and continue to drive improvements in efficiency across the automotive industry. For example, product lines in our Performance Solutions business unit are agnostic to powertrain technology. We also actively develop product lines that are particularly suited to electric or electrified vehicles. Approximately a third of the new business pipeline for Performance Solutions focuses on battery electric vehicles or hybrids. In 2021, we have planned multiple launches of programs for battery electric vehicles, hybrids or e-bike programs as we facilitate advancements in the industry. Case study 1: In December 2021, Tenneco expanded its portfolio of Monroe® RideRefine™ add-on technologies for passive dampers to include a new tunable end-stop technology that supports global automakers' electrification and vehicle lightweighting strategies. The new Monroe RideRefine Hydraulic Compression Stop (HCS) improves ride comfort and body control by enabling a better trade-off between ride height and end-stroke compression damping. It significantly reduces impact forces transferred to the vehicle body structure near the end of a damper's compression stroke. By controlling peak end-stop force, this technology helps manufacturers reduce the structural requirements of vehicles that typically carry heavier loads – including battery packs. Case study 2: in March 2022, Tenneco announced a series of enhancements to its Premium control arms, including induction-hardened studs and carbon fiber-reinforced bearings. Induction-hardened studs provide added strength, while the patent-pending carbon fiber-reinforced bearings reduce socket friction compared to typical non-reinforced bearings. Together these innovations provide longer socket life.

Comment
Cost of management is directly aligned with our business strategy and investment in research and development.

C3. Business Strategy

C3.1

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

Row 1

Transition plan

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

Publicly available transition plan

<Not Applicable>

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

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

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

<Not Applicable>

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

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

<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Important but not an immediate priority	Tenneco has entered into a definitive agreement to be acquired by funds managed by affiliates of Apollo (NYSE: APO). Pending a consummation of the transaction, we will continue to focus on understanding and managing our climate-related impacts as a priority. For example, we expanded our assessment this year, by quantifying our wider supply chain impacts (scope 3), enabling us to understand in greater depth where our most significant climate related impacts are outside of the current boundary we consider. This will not only help us understand the magnitude of our impact, but also help us to identify the levers we can use to reduce this impact. We are considering committing to further targets and developing a detailed emission reduction strategy. As part of this journey, we expect to consider use of climate-related scenario analysis.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Integration of environmental strategy with our business strategy is inherent to Tenneco's business elements: Sales and Commercial Operations, Product Development / Launch, Manufacturing Operations, and Integrated Supply Chain Management. Risks and opportunities identified in our four business systems inform overall business strategy. For example, the product management component of our Sales and Commercial operations reviews customer feedback, assesses reputation risk, and translates customer and market requirements into product strategies, road maps and prioritized product plans. Our customers face risks and opportunities driven by legislation, changes in consumer behaviour, and technology advances. More stringent fuel economy regulations and a change in consumer behaviour towards more fuel-efficient vehicles and fuel types presents us with opportunities to investigate, propose and develop new prototype products. Successful prototypes then migrate into Tenneco's Program Launch system. By way of a strategic product example – the Tenneco DLC (Diamond Like Coating) range of piston ring coatings, including CarboGlide and DuroGlide, provide the ultimate combination of low friction and exceptional durability in the most critical engine environments. DLC coated piston rings contribute to fuel economy savings up to 1.5%. In 2020, we also announced a new and exciting area of development in 'self-healing' coatings, which have the ability to self-generate during engine operation.
Supply chain and/or value chain	Yes	To meet the stakeholder expectations and maintain business continuity, we mitigate environmental and social risks in our supply chain and enforce our procurement standards. As part of our commitment to human rights, we perform due diligence and evaluate our suppliers periodically, and we comply with requirements related to conflict minerals. We also continue to enhance visibility along our supply chain, and we identify opportunities to improve our procurement efforts and mitigate risks of disruption. By limiting natural resource use and maintaining our standards, we strive to strengthen our supply chain, because cultivating a dependable and responsible supply chain is important to our ability to provide high-quality products for our customers. We strive to contribute to a more efficient, responsible supply chain. As part of our strategy, we aim to include our own suppliers in our efforts to increase sustainability and deliver value for our customers. By eliminating waste and reducing greenhouse gas emissions in our supply chain, we can increase our efficiency to generate savings along our value chain and improve our business success. To drive our sustainable growth, we continue to implement processes to track the performance of our suppliers while fostering a culture of innovation to support improvements. As we progress, we aim to collaborate with our suppliers to mitigate supply chain risks. Our goal is to have 100% of our top sustainability "high-risk" and/or "high-impact" suppliers complete a self-assessment questionnaire by the end of 2022. With this information, we will enable more responsible growth and targeted improvements for our suppliers. A specific example of climate-related risks influencing our supply chain strategy is in our usage of copper as a raw material in our products. As we strive to use lightweight materials in our manufacturing, we are aware of regulatory compliance related to minimizing copper usage. As such, Tenneco is one of the first in the world to introduce a complete line of zero-copper brake pads more than 10 years ahead of mandated legislation that phased out the use of copper due to its adverse environmental impact. We sold more than 6.8M sets of these brake pads in 2020.
Investment in R&D	Yes	Tenneco's innovation strategy has focused to increase product range to support internal combustion and hybrid engine needs. Greenhouse gas emissions and vehicle propulsion efficiency are key defining opportunities and feature prominently in our future product road maps in support of our automotive industry customers. Our Product Development and Launch system identified regulatory risks and opportunities and considers these in the strategies and road map to develop new products through the Tenneco Product Launch System (TenPLUS). Our Innovation team developed a cross-functional, phase-gate business process to manage investment risk as well as gauge market acceptance and Technical Readiness Level (TRL) of new products under development. This program focuses on identifying regulatory market opportunities and increases the probability that our research and development investments will result in successful customer adoption At a high level, many of our innovations are driven by fuel economy standards (i.e. to reduce CO2, exhaust recovery, etc.) which will help us be prepared for regulations that will be in place in 2025. We design specialized coatings and components that reduce mass and friction and improve thermal and mechanical resistance, which support OEMs in reaching their goals for engine enhancements. For example, our light vehicle diesel steel pistons offer proven carbon emission reduction, and our IROX 2 polymer bearing coatings (PACE award winner) provide increased reliability to support higher-density, more efficient engines. Tenneco is involved with Powertrain components in multiple projects for hydrogen combustion engines. We are using our technological competence and testing capabilities to optimize the Powertrain and exhaust aftertreatment components specifically for the use with hydrogen, helping our customers to develop efficient and robust hydrogen combustion engines. Synthetic fuels for motor vehicles can play an important role in achieving near-zero emissions mobility by using renewable energy sources to create a closed CO2 cycle when viewed from a holistic "well-to-wheel" perspective. Developing a climate-neutral alternative to petroleum-based fuels allows Tenneco's Clean Air experts to better manage remaining pollutants through the aftertreatment process while offering the potential for reducing overall emissions.
Operations	Yes	As one of the world's leading designers, manufacturers and marketers of automotive products for original equipment and aftermarket customers, what Tenneco makes matters. Tenneco have implemented strategic company values that outline what we stand for. These values are: Integrity Always, One Team, Make Tomorrow Better and Will to Win. To underpin our Make Tomorrow Better value, we developed a framework to align our strategic approach to sustainability and focus our efforts on our key impacts. Based on Tenneco's ESG priorities, we organized the pillars to define our future performance and recognize opportunities for improvement across our business. Our strategy, The Road to Making Tomorrow Better, reflects stakeholder input, our material topics and critical elements of our culture. We continue to operate with a foundation of responsibility and accountability as we implement our strategy to generate positive impacts related to three key pillars: People, Planet and Products. With the Planet pillar we focus on minimising our impact on the planet through operation eco-efficiency and renewable energy sourcing. This involves work throughout our operations to reduce energy use, GHG emissions and waste. Our environmental strategy focuses on reducing energy consumption and evaluating opportunities to incorporate renewable energy into our operations. We recognize our responsibility to reduce our contribution to climate change, and we continue to assess our strategy to mitigate climate-related risks. As a global organization with a significant footprint, we are focused on making improvements in energy efficiency and limiting emissions at our sites.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures Capital allocation	Capital allocation: Capital allocation to our innovation strategy is increasingly important as technology evolves and customers continue to demand climate focused vehicle improvements. To drive our financial performance, we invest in research and development and strive to differentiate our business. We continue to illustrate the range of our capabilities and supply new technologies to enable the market transition as we incorporate modern advancements that support electrification and alternative fuels. During 2020 alone our Engineering, research and development costs were $273m. Whilst not all of our R&D costs are directly attributable to technology innovations responding directly to climate change, this magnitude provides a proxy for the high level of investment in our response to evolving technology. By anticipating climate directed market needs, we offer innovative solutions to remain leaders in this transforming industry and drive value for our stakeholders through short term individual product enhancements through to our long term strategic business change (10-50 year horizon) as our business respond to the longer term transition to electrification. Capital Expenditure: Prior to expenditure on capital projects, at an asset level, we use a MOC (Management of Change) checklist process. The MOC checklist is used to evaluate the potential environmental, health and safety, resource usage implications of a capital project. Capital project must pass the MOC process before a Capital Appropriate Request is authorised. The MOC checklist is related to both our climate related risk and opportunities as the process may highlight where particular proposed capital expenditure could increase our climate related impacts (a risk), offering us an opportunity to review our specific purchasing decision to select equipment with comparatively better environmental performance (opportunity). For each project of significant investment, the requestor must highlight whether a project is likely to have an impact in terms of increase or decrease of: utility usage, resource usage, GHG emissions, waste volumes (hazardous, recyclable, general) VOCs, water usage. All of the aspects of EHS (environment, health and safety) will then be considered in the round, prior to approval of the Capital Appropriation Request

C4. Targets and performance

C4.1

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

C4.1b

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

Target reference number
Int 1

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Intensity metric
Metric tons CO2e per unit revenue

Base year
2019

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
15.44254086

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
66.4853206

Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
81.927851

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure
100

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure
<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2030

Targeted reduction from base year (%)
30

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
57.3494957

% change anticipated in absolute Scope 1+2 emissions
-30

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
13.41028807

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
60.42317397

Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
73.83349044

% of target achieved relative to base year [auto-calculated]
32.9328812331068

Target status in reporting year
Underway

Is this a science-based target?
No, and we do not anticipate setting one in the next 2 years

Target ambition
<Not Applicable>

Please explain target coverage and identify any exclusions
1. For the purposes of this long-term target our anticipated absolute reduction in scope 1 and 2 emissions is 30% on the basis of no assumed material change in revenue and the assumption that we will meet our target. 2. Note our intensity target is stated here per $million revenue, not per single unit revenue - therefore the order of magnitude here will appear different to that in question 6.10 where the requirement is to display an intensity per single unit revenue

Plan for achieving target, and progress made to the end of the reporting year
Our teams and business units across the company collaborate closely to achieve our goals for energy management and emissions reduction. In 2021, we formed the Energy Council and two associated working groups to drive renewable energy procurement and reduce overall energy consumption. At the front line, global operation teams maintain responsibility for energy management activities. In 2021, the working groups under the energy Council kicked off work to develop a Tenneco roadmap for a transition toward green energy and a playbook for implementing energy efficiency projects across our global operations. Thirteen pilot sites across the organization were selected for energy assessments to help identify opportunities for improvement. In addition to developing the energy efficiency playbook, the energy efficiency working group is focused on leveraging existing best practices across the organization as well as promoting and supporting energy reduction initiatives within the business segments. These initiatives will support Tenneco's progress toward our 2030 goals and will also prepare for longer-term goals that we are exploring, including carbon neutrality and science-based targets in alignment with the Paris Agreement.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Target(s) to increase low-carbon energy consumption or production
Other climate-related target(s)

C4.2a

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

Target reference number
Low 1

Year target was set
2021

Target coverage
Company-wide

Target type: energy carrier
All energy carriers

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2021

Consumption or production of selected energy carrier in base year (MWh)
3732299.367

% share of low-carbon or renewable energy in base year
9.63

Target year
2030

% share of low-carbon or renewable energy in target year
15

% share of low-carbon or renewable energy in reporting year
9.63

% of target achieved relative to base year [auto-calculated]
0

Target status in reporting year
Underway

Is this target part of an emissions target?
No

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
The target covers all Tenneco's operations across all regions and sites. There is no exclusion.

Plan for achieving target, and progress made to the end of the reporting year
In 2021, we formed the Energy Council and two associated working groups to drive renewable energy procurement and reduce overall energy consumption. At the front line, global operation teams maintain responsibility for energy management activities. As we pursue our renewable energy goals, we have upgraded our reporting systems to track renewable energy programs across the company. In 2021, the working groups under the Energy Council kicked off work to develop a Tenneco roadmap for a transition toward green energy across our global operations. Thirteen pilot sites across the organization were selected for energy assessments to help identify opportunities for improvement. These initiatives will support Tenneco's progress toward our 2030 goals and will also prepare for longer-term goals that we are exploring, including carbon neutrality and science-based targets in alignment with the Paris Agreement. Tenneco will achieve renewable electricity targets through Power Purchase Agreements, and where possible, by installing onsite solar generation. Case study: there were two facilities that installed rooftop solar photovoltaic panels in 2021. The Mondovi, Italy facility installed a one megawatt (MW) solar photovoltaic system and a combined heat and power plant (CHP) with a methane gas engine that helps with efficient heating and cooling in the facility. It is estimated that the installations will supply about 47% of the facility's overall energy demand and reduce 360 metric tons of carbon emissions annually. In Portugal, the Palmela facility installed a 102 kilowatts (kW) photovoltaic system on their rooftop. The project was accomplished through a 10-year energy contract, resulting in annual energy savings. Our effort and progress in pursuing renewable energy is recognized by our customers. Our Clean Air Team in Chengdu, China received the Volvo Sustainable Supply Chain Award for utilization of green power. In January 2021, the Chengdu team successfully switched all its electricity to 100 percent green energy, reducing 1,800 tons of greenhouse gas emissions every year.

List the actions which contributed most to achieving this target
<Not Applicable>

C4.2b

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

Target reference number
Oth 1

Year target was set
2021

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

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

Energy consumption or efficiency	MWh

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
4039291.439

Target year
2030

Figure or percentage in target year
2827504.0073

Figure or percentage in reporting year
3732299.367

% of target achieved relative to base year [auto-calculated]
25.3338220853904

Target status in reporting year
Underway

Is this target part of an emissions target?
No, but the actions implemented to achieve this target will also contribute to the progress against emission targets

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
The target covers all Tenneco's operations across all regions and sites. There is no exclusion

Plan for achieving target, and progress made to the end of the reporting year
In 2021, we formed the Energy Council and two associated working groups to drive renewable energy procurement and reduce overall energy consumption. At the front line, global operation teams maintain responsibility for energy management activities. In 2021, the working groups under the Energy Council kicked off work to develop a playbook for implementing energy efficiency projects across our global operations. Thirteen pilot sites across the organization were selected for energy assessments to help identify opportunities for improvement. In addition to developing the energy efficiency playbook, the energy efficiency working group is focused on leveraging existing best practices across the organization as well as promoting and supporting energy reduction initiatives within the business segments. These initiatives will support Tenneco's progress toward our 2030 goals and will also prepare for longer-term goals that we are exploring, including carbon neutrality and science-based targets in alignment with the Paris Agreement. We proactively pursue opportunities to reduce energy use and associated emissions. In October 2021, the Greenville, Michigan facility partnered with General Motors (GM) on energy efficiency opportunities through the concept of energy hunts, where a list of potential improvements is ranked based on various criteria. GM provided advice and helped the facility develop an action plan, leading to both energy reduction and cost savings initiatives. Our plant in Napoleon, Ohio, has worked with the City of Napoleon and Efficiency Smart, a program that helps businesses use less energy and save money through energy efficiency strategies. Since the inception of the program, the plant has achieved a 30% reduction in energy use and culminated in $2.5 million in total cost savings over the lifetime of the new and upgraded equipment from energy efficiency projects. These projects show our collaborative approach to drive energy efficiency in operations. As we progress towards our goals, we will continue to invest in projects and partnerships that improve efficiency in our sites.

List the actions which contributed most to achieving this target
<Not Applicable>

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	10	53513
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	41	5477
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

Low-carbon energy generation	Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)
360

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

Voluntary/Mandatory
Mandatory

Annual monetary savings (unit currency – as specified in C0.4)
300000

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

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Tenneco has invested in the development of a photovoltaic system at its Mondovi Plant

C4.3c

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

Method	Comment
Financial optimization calculations	We select emission reduction activities where asset or overhead costs are reduced and the return on investment is favourable.

C4.5

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

C4.5a

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

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (Our Business Unit engineering leaders help ensure adherence to appropriate methodologies to evaluate and label the products that are considered as low carbon, or enable third parties to avoid emissions)

Type of product(s) or service(s)

Road	Other, please specify (Automotive products that contribute to fuel efficiency and/or emissions reduction)

Description of product(s) or service(s)
Tenneco develops products that support the next generation of hybrid and battery electric vehicles while also enabling more efficient internal combustion engines with fewer emissions. Our business provides the products that enable the continued evolution of internal combustion engines and reduce emissions from exhaust gases. We also contribute to the transition to a low-carbon economy by delivering solutions that recover exhaust energy, reduce mass and backpressure, and improve fuel economy. We support long-lasting operating conditions that prevent fluid leakage or vehicle deterioration, which maintain vehicle lifespans to keep them out of landfills. Together, our products enable cleaner transportation and valuable efficiency increases from multiple angles of vehicle improvement. In 2021, we derived 41% of our revenue from Powertrain and Clean Air products designed to improve fuel efficiency and/or reduce emissions during their use phase. For example, our light vehicle diesel steel pistons offer proven carbon emission reduction, and our IROX 2 polymer bearing coatings provide increased reliability to support higher-density, more efficient engines.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
41

C5. Emissions methodology

C5.1

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

C5.1a

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

Row 1

Has there been a structural change?
No

Name of organization(s) acquired, divested from, or merged with
<Not Applicable>

Details of structural change(s), including completion dates
<Not Applicable>

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology	Use of EPA eGRiD emission factors for the calculation of scope 2 emissions in the United States.

C5.1c

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

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	We have re-calculated emissions for the two previous years (2019 and 2020) to reflect the new boundary. 2019 is Tenneco's base year, as this is the last representative year for the business (pre-pandemic).

C5.2

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

Scope 1

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
269472

Comment

Scope 2 (location-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1160169

Comment

Scope 2 (market-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1324146.42

Comment
Note: Market- based emissions for 2019, 2020 and 2021 are conservative and assume residual mix or location-based conversion factors are applied in most instances (residual mix in Europe via AIB REDISS residual mix data, residual mix in the United States via Green-e residual mix data, and application of location-based conversion factors everywhere else globally, per the WRI GHG Scope 2 protocol conversion factors hierarchy). The application of Residual mix and location-based factors is due to lack of consolidated data across the current portfolio for EAC (Energy Attributed Certificates), green tariff info or other verifiable evidence of low or zero carbon energy, per the WRI GHG Scope 2 guidance on evidence quality.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
8761969.71

Comment

Scope 3 category 2: Capital goods

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
285588.381

Comment

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

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
343448.637

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
679788.328

Comment

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
26122.558

Comment

Scope 3 category 6: Business travel

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
44432.16

Comment

Scope 3 category 7: Employee commuting

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
347152.48

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
86868.176

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1706054.923

Comment

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

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
197881.515

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
27860.148

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

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

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
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
US EPA Emissions & Generation Resource Integrated Database (eGRID)
Other, please specify (International Energy Agency)

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
241854.55

Start date
January 1 2021

End date
December 31 2021

Comment

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
226671.85

Start date
January 1 2020

End date
December 31 2020

Comment
Figures reinstated following data improvements (more sites provided actual gas and fuel data, thus reducing the proportion of estimations) and extension of reporting scope (to include company car emissions).

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
269472.34

Start date
January 1 2019

End date
December 31 2019

Comment
Figures reinstated following data improvements (more sites provided actual gas and fuel data, thus reducing the proportion of estimations) and extension of reporting scope (to include company car emissions).

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment

C6.3

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

Reporting year

Scope 2, location-based
1089731.94

Scope 2, market-based (if applicable)
1022096.99

Start date
January 1 2021

End date
December 31 2021

Comment

Past year 1

Scope 2, location-based
1017236.44

Scope 2, market-based (if applicable)
1153148.67

Start date
January 1 2020

End date
December 31 2020

Comment
Figures reinstated following data improvements (more sites provided actual electricity data, thus reducing the proportion of estimations) and extension of reporting scope (to include heat emissions).

Past year 2

Scope 2, location-based
1160168.84

Scope 2, market-based (if applicable)
1324146.42

Start date
January 1 2019

End date
December 31 2019

Comment
Figures reinstated following data improvements (more sites provided actual electricity data, thus reducing the proportion of estimations) and extension of reporting scope (to include heat emissions).

C6.4

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

C6.4a

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

Source
Fugitive Emissions

Relevance of Scope 1 emissions from this source
Emissions are not evaluated

Relevance of location-based Scope 2 emissions from this source
No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)
No emissions from this source

Explain why this source is excluded
Data for fugitive emissions not currently tracked by sites or available at the centrally. We believe the impact from fugitive emissions within Tenneco operations is minimal, however we plan to do a formal evaluation in near future.

Estimated percentage of total Scope 1+2 emissions this excluded source represents
<Not Applicable>

Explain how you estimated the percentage of emissions this excluded source represents
<Not Applicable>

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
8174233.612

Emissions calculation methodology
Hybrid method
Spend-based method
Site-specific method

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

Please explain
Emissions are calculated using a hybrid methodology: spend-based calculations (Extended Environmental Input-Output model, for 99% of emissions) and process-based calculations (for water supply only)

Capital goods

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
229641.834

Emissions calculation methodology
Spend-based method

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

Please explain
Emissions are calculated using spend-based calculations (Extended Environmental Input-Output model)

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

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
414564.459

Emissions calculation methodology
Supplier-specific method
Hybrid method
Spend-based method
Distance-based method

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

Please explain
For buildings (electricity, natural gas and other fuels), scope 3 emissions are calculated using process-based calculations: the relevant emission factors (from IEA and Defra databases) are applied to each site's energy data. For company cars, scope 3 emissions are calculated using a hybrid methodology: process-based calculations (when distance travelled is available, applying transport mode-specific emission factors from Defra) and spend-based calculations (Extended Environmental Input-Output model, when only spend data is available). All cradle-to-gate emissions are included, i.e. well-to-tank emissions and electricity transmission & distribution (including well-to-tank T&D).

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
554666.914

Emissions calculation methodology
Average data method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
68

Please explain
Emissions are calculated using a process-based methodology. Well-to-tank emission factors from Defra are applied to logistics data including shipment weight, transport mode, origin and destination. Were logistics data is missing, the gap is filled using weight averages based on the rest of the dataset.

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
23300.328

Emissions calculation methodology
Waste-type-specific method

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

Please explain
Emissions are calculated using process-based calculations: the relevant Defra emission factors are applied to each site's waste data, i.e. waste volume, type and destination.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
8044.792

Emissions calculation methodology
Hybrid method
Spend-based method
Distance-based method

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

Please explain
Emissions are calculated using a hybrid methodology: process-based calculations (for flights only, with Defra well-to-tank factors applied to travel data, i.e. distance, flight type and class) and spend-based calculations (Extended Environmental Input-Output model, for all other transport modes).

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
257891.815

Emissions calculation methodology
Average data method

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

Please explain
Emissions are estimated based on market benchmarks (commuting habits in the USA and the UK: average distance travelled and transport mode) applied to Tenneco's headcount and the relevant well-to-tank Defra emission factors.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
Not relevant. Tenneco takes an operational control boundary, therefore emissions associated with the operation of all leased assets are already included under scope 1 and 2 inventory.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
121123.368

Emissions calculation methodology
Average data method

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

Please explain
Emissions are estimated based on Upstream transportation emission data and high-level assumptions provided by Tenneco's Logistics team

Processing of sold products

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
Category 10 emissions are excluded from the inventory. There are no emissions associated to the transformation of goods sold, as they are directly assembled into finished cars at the clients' facilities. The assembly process creates indirect emissions (generation of electricity used to power assembly machines), but there no visibility over this activity, and the extensive variety of product and customer types makes any assumption unmanageable. In addition, these indirect emissions are assumed to be small and decreasing, as most OEM customers are setting ambitious renewable electricity targets for their facilities.

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
2013579.26

Emissions calculation methodology
Methodology for direct use phase emissions, please specify
Other, please specify (Weight-based method)

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

Please explain
Emissions are estimated based on use-phase emissions of the end-product (e.g. car, truck, excavator, industrial engine, etc. - with data coming from LCA studies and Defra emission factor database), applied to Tenneco's products sold using a weight-based allocation rule. In scope are all the products that directly emit emissions during the use-phase, e.g. Ignition and Emission Control. All other product lines are excluded.

End of life treatment of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
183978.129

Emissions calculation methodology
Average data method
Other, please specify (Volume-based proxy for products sold)

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

Please explain
Emissions are estimated based on Goods for Resale volumes (used as proxy for products sold), Defra waste emission factors and assumptions on end-of-life destination.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
Category 13 emissions are excluded from the inventory. Tenneco does not have any leased downstream assets

Franchises

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
Category 14 emissions are excluded from the inventory. Tenneco does not have any franchises

Investments

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
30753.007

Emissions calculation methodology
Average spend-based method

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

Please explain
Emissions are estimated based on total scope 1 & 2 emissions, applied to a ratio (Net assets of non-consolidated affiliates) / (Total assets – Total liabilities)

Other (upstream)

Evaluation status
Please select

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

Emissions calculation methodology
<Not Applicable>

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

Please explain

Other (downstream)

Evaluation status
Please select

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

Emissions calculation methodology
<Not Applicable>

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

Please explain

C6.5a

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

Past year 1

Start date
January 1 2020

End date
December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)
7387641.65

Scope 3: Capital goods (metric tons CO2e)
215287.269

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
279722.134

Scope 3: Upstream transportation and distribution (metric tons CO2e)
508959.013

Scope 3: Waste generated in operations (metric tons CO2e)
23504.097

Scope 3: Business travel (metric tons CO2e)
10201.288

Scope 3: Employee commuting (metric tons CO2e)
221595.304

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)
92709.413

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

Scope 3: Use of sold products (metric tons CO2e)
1651411.527

Scope 3: End of life treatment of sold products (metric tons CO2e)
161900.928

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)
30366.106

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

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

Comment

Past year 2

Start date
January 1 2019

End date
December 31 2019

Scope 3: Purchased goods and services (metric tons CO2e)
8761969.71

Scope 3: Capital goods (metric tons CO2e)
285588.381

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
343448.637

Scope 3: Upstream transportation and distribution (metric tons CO2e)
679788.328

Scope 3: Waste generated in operations (metric tons CO2e)
26122.558

Scope 3: Business travel (metric tons CO2e)
44432.16

Scope 3: Employee commuting (metric tons CO2e)
347152.48

Scope 3: Upstream leased assets (metric tons CO2e)

Scope 3: Downstream transportation and distribution (metric tons CO2e)
86868.176

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

Scope 3: Use of sold products (metric tons CO2e)
1706054.923

Scope 3: End of life treatment of sold products (metric tons CO2e)
197881.515

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)
27860.148

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

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

Comment

C6.7

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

C6.7a

(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	61.84	

C6.10

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

Intensity figure
0.0000738

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
1331586.49

Metric denominator
unit total revenue

Metric denominator: Unit total
18035000000

Scope 2 figure used
Location-based

% change from previous year
8.72

Direction of change
Decreased

Reason for change
Revenue went up from 2020 to 2021, while our sites were more energy efficient and engaged in more energy and emission reduction initiatives.

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	235167.73	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	106.46	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	191.25	IPCC Fourth Assessment Report (AR4 - 100 year)
Other, please specify (Remaining emissions from estimations where all GHGs are represented, but not possible to display individually)	6389.11	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Australia	3682.3
Belgium	4185.81
Brazil	3317.21
Canada	3086.78
China	11180.48
France	5586.86
Germany	46466.85
India	7893.7
Japan	23.7
Mexico	27043.64
Poland	17742.89
South Africa	294.38
Spain	2505.23
Thailand	45.82
United Kingdom of Great Britain and Northern Ireland	5573.29
United States of America	73485.59
Argentina	1191.59
Republic of Korea	635.07
Czechia	5371.34
Italy	3800.77
Philippines	0.1
Portugal	3.64
Romania	2795.86
Russian Federation	2706.9
Hungary	555.76
Turkey	6289.54
Other, please specify (Remaining emissions from estimations where all GHGs are represented, but not possible to display individually)	6389.45

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)
Clean Air Division	23544.45
Motorparts Division	27759.7
Powertrain Division	115845.54
Performance Solutions Division	68219.94
Corporate	95.37
Remaining emissions from estimations where all GHGs are represented, but not possible to display individually	6389.55

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)
Argentina	2541.34	2541.34
Australia	4703.59	4703.59
Belgium	4595.75	4155.58
Brazil	9298.77	9298.77
Canada	2101.6	2101.6
China	156351.14	155163.541
Czechia	22249.84	27146.096
France	2777.17	2522.692
Germany	119072.38	36850.857
Hungary	1962.74	2383.254
India	111623.88	80203.277
Japan	2218.38	2218.38
Mexico	101089.97	101089.97
Poland	109126.99	139454.573
Portugal	281.97	335.63
Russian Federation	13208.37	13208.37
South Africa	17354.32	17354.32
Republic of Korea	10736.6	10736.6
Spain	6304.18	8082.511
Thailand	11067.98	11067.98
United Kingdom of Great Britain and Northern Ireland	9382.01	9027.222
United States of America	268209.43	273228.026
Viet Nam	1375.29	1375.29
Morocco	808.94	808.94
Italy	8398.92	13435.736
Philippines	305.25	305.25
Romania	6527.8	5352.567
Sweden	156.12	914.382
Taiwan, China	3.6	3.6
Turkey	77571.5	77571.5
Other, please specify (Remaining emissions from estimations where all GHGs are represented, but not possible to display individually)	8326	9456

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)
Clean Air Division	111879.52	
Motorparts Division	74998.71	
Powertrain Division	652717.72	
Performance Solutions	240165.4	
Corporate	1029.22	
Corporate	1029.22	
Remaining emissions from estimates	7912.15	

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		Revenue went up from 2020 to 2021, while our sites were more energy efficient and engaged in more energy and emission reduction initiatives.
Other emissions reduction activities	316.02	Decreased	0.025	Based on emission savings projects and activities completed in 2021. Number represents a portion of emission saved from reduction activities, as not all projects had an available savings estimate.
Divestment	4679.53	Decreased	0.37	Emissions avoided as a result of divestment of sites from the portfolio.
Acquisitions	0	No change		N/A
Mergers	0	No change		N/A
Change in output	92673.55	Increased	7.45	Total emissions reduction related to site closures, carbon reduction activities that are not separately quantifiable in the category. Following the decrease in work hours in 2020 related to the global COVID-19 pandemic, there was a 16.3% increase in the total global number of hours worked (as reported in our Sustainability report), in 2021 compared to 2020.This led to an increase in total emissions.
Change in methodology	0	No change		Not able to currently attribute emissions directly to this reason due to lack of traceability of the precise changes at this time.
Change in boundary	0	No change		Not able to currently attribute emissions directly to this reason due to lack of traceability of the precise changes at this time.
Change in physical operating conditions	0	No change		Not able to currently attribute emissions directly to this reason due to lack of traceability of the precise changes at this time.
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	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
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)	144.28	1303640.56	1303784.84
Consumption of purchased or acquired electricity	<Not Applicable>	352482.4	2042026.18	2394508.58
Consumption of purchased or acquired heat	<Not Applicable>	0	24720.02	24720.02
Consumption of purchased or acquired steam	<Not Applicable>	0	8288.67	8288.67
Consumption of purchased or acquired cooling	<Not Applicable>	0	7.49	7.49
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	901.85	<Not Applicable>	901.85
Total energy consumption	<Not Applicable>	353528.53	3378682.92	3732211.45

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	No
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.

Sustainable biomass

Heating value
HHV

Total fuel MWh consumed by the organization
144.3

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

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

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

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Other biomass

Heating value
HHV

Total fuel MWh consumed by the organization
87.92

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

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

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

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value
Please select

Total fuel MWh consumed by the organization
0

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
<Not Applicable>

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Comment

Coal

Heating value
Please select

Total fuel MWh consumed by the organization
0

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
<Not Applicable>

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Comment

Oil

Heating value
HHV

Total fuel MWh consumed by the organization
52079.12

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

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

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

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

Gas

Heating value
HHV

Total fuel MWh consumed by the organization
1249890.28

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

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

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

MWh fuel consumed for self- cogeneration or self-trigeneration

Comment

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

Heating value
Please select

Total fuel MWh consumed by the organization
0

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
<Not Applicable>

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

MWh fuel consumed for self- cogeneration or self-trigeneration
0

Comment

Total fuel

Heating value
HHV

Total fuel MWh consumed by the organization
1303872.75

MWh fuel consumed for self-generation of electricity

MWh fuel consumed for self-generation of heat

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

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

MWh fuel consumed for self- cogeneration or self-trigeneration

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	901.85	0	901.85	901.85
Heat	0	0	0	0
Steam	0	0	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 or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method
Direct procurement from an off-site grid- connected generator e.g. Power purchase agreement (PPA)

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
Germany

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
283235.69

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

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

Comment

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

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
China

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2430.04

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

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

Comment

Sourcing method
Direct procurement from an off-site grid- connected generator e.g. Power purchase agreement (PPA)

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
China

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
102.15

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

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

Comment

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
Spain

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
4409.18

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

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

Comment

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
19031.1

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

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

Comment

Sourcing method
Direct procurement from an off-site grid- connected generator e.g. Power purchase agreement (PPA)

Energy carrier
Electricity

Low-carbon technology type
Please select

Country/area of low-carbon energy consumption
India

Tracking instrument used
Please select

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
43274.35

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

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

Comment

C8.2g

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

Country/area
Argentina

Consumption of electricity (MWh)
8824.15

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
8824.15

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

Country/area
Australia

Consumption of electricity (MWh)
6838.62

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
6838.62

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

Country/area
Belgium

Consumption of electricity (MWh)
27668.82

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
27668.82

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

Country/area
Brazil

Consumption of electricity (MWh)
89069.47

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
89069.47

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

Country/area
Canada

Consumption of electricity (MWh)
16191.13

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
16191.13

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

Country/area
China

Consumption of electricity (MWh)
246850.3

Consumption of heat, steam, and cooling (MWh)
5610.06

Total non-fuel energy consumption (MWh) [Auto-calculated]
252460.36

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

Country/area
Czechia

Consumption of electricity (MWh)
44852.3

Consumption of heat, steam, and cooling (MWh)
10588.53

Total non-fuel energy consumption (MWh) [Auto-calculated]
55440.83

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

Country/area
Denmark

Consumption of electricity (MWh)
81.6

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
81.6

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

Country/area
France

Consumption of electricity (MWh)
51620.47

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
51620.47

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

Country/area
Germany

Consumption of electricity (MWh)
341266.1

Consumption of heat, steam, and cooling (MWh)
4483.46

Total non-fuel energy consumption (MWh) [Auto-calculated]
345749.56

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

Country/area
Hungary

Consumption of electricity (MWh)
8570.99

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
8570.99

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

Country/area
India

Consumption of electricity (MWh)
153731.98

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
153731.98

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

Country/area
Italy

Consumption of electricity (MWh)
29356.83

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
29356.83

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

Country/area
Japan

Consumption of electricity (MWh)
4538.44

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
4538.44

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

Country/area
Mexico

Consumption of electricity (MWh)
253741.94

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
253741.94

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

Country/area
Morocco

Consumption of electricity (MWh)
1157.47

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
1157.47

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

Country/area
Philippines

Consumption of electricity (MWh)
452

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
452

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

Country/area
Poland

Consumption of electricity (MWh)
163389.5

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
163389.5

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

Country/area
Portugal

Consumption of electricity (MWh)
1187.81

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
1187.81

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

Country/area
Romania

Consumption of electricity (MWh)
18910.31

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
18910.31

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

Country/area
Russian Federation

Consumption of electricity (MWh)
29182.05

Consumption of heat, steam, and cooling (MWh)
12334.17

Total non-fuel energy consumption (MWh) [Auto-calculated]
41516.22

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

Country/area
Singapore

Consumption of electricity (MWh)
12.86

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
12.86

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

Country/area
South Africa

Consumption of electricity (MWh)
18529.2

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
18529.2

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

Country/area
Republic of Korea

Consumption of electricity (MWh)
20755.26

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
20755.26

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

Country/area
Spain

Consumption of electricity (MWh)
31647.78

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

Total non-fuel energy consumption (MWh) [Auto-calculated]
31647.78

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

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

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

No, but we are actively considering verifying within the next two years

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, but we anticipate being regulated in the next three years

C11.1d

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

This EU's Emissions Trading System (EU ETS) is only applicable to a select number of sites across our European portfolio and not applicable to all Tenneco operations.

We have an operational estate for which we will likely need to formally purchase EU emissions allowances in the next three years (currently the key estates eligible for the cap-and-trade system have operated within their emissions targets and EU Commission free allowances; as such not yet needing to purchase our own allowances). We are aware, however, given we monitor energy usage and generation capacity across our estate closely, that we will likely need to make EU ETS allowances purchases for sites in the near future if we are not able to reduce emissions sufficiently, in line with the reducing emissions cap.

In addition, Tenneco expect to be regulated by the upcoming Carbon Border Adjustment Mechanism (CBAM) which is designed to function in parallel with the EU's Emissions Trading System (EU ETS).

C11.2

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

No

C11.3

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

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

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers/clients

C12.1a

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

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Other, please specify (Environmental topics are integrated into supplier evaluation processes)

% of suppliers by number
15

% total procurement spend (direct and indirect)
79

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
Tenneco is firmly committed to ethical business practices and to full compliance with all applicable laws, regulations, and rules, including those concerning anti-bribery/anti-corruption, antitrust, trade, and conflicts of interest. In 2021, Tenneco published a new Supplier Code of Conduct that outlines our requirements to our suppliers including environmental, social and governance topics. Tenneco requires suppliers to commit to those same standards, as embodied in Tenneco's Supplier Code of Conduct, which includes environmental sustainability requirements.

Impact of engagement, including measures of success
We strive to contribute to a more efficient, responsible supply chain. As part of our strategy, we aim to include our own suppliers in our efforts to increase sustainability and deliver value for our customers. By reducing waste and greenhouse gas emissions in our supply chain, we can increase our efficiency to generate savings along our value chain and improve our business success.We screen our direct material suppliers during the onboarding process using specific environmental criteria. To drive our sustainable growth, we continue to implement processes to track the performance of our suppliers while fostering a culture of innovation to support improvements. As we progress, we aim to collaborate with our suppliers to mitigate supply chain risks. Our goal is to have 100% of our top sustainability “high-risk” and/or “high-impact” suppliers complete a sustainability self-assessment questionnaire by the end of 2022. With this information, we will enable more responsible growth and targeted improvements for our suppliers. As part of our supplier training programme also encourage all our suppliers to take the AIAG Supply Chain Sustainability Knowledge Assessment and the AIAG Supply Chain Sustainability e-Learning.

Comment
Tenneco is firmly committed to ethical business practices and to full compliance with all applicable laws, regulations, and rules, including those concerning anti-bribery/anti-corruption, antitrust, trade, and conflicts of interest. Tenneco requires suppliers to commit to those same standards, as embodied in Tenneco's Supplier Code of Conduct (available on our website).

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Other, please specify (Environmental topics are integrated into supplier evaluation processes)

% of suppliers by number
15

% total procurement spend (direct and indirect)
79

% of supplier-related Scope 3 emissions as reported in C6.5
0

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Impact of engagement, including measures of success
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Comment
Tenneco is firmly committed to ethical business practices and to full compliance with all applicable laws, regulations, and rules, including those concerning anti-bribery/anti-corruption, antitrust, trade, and conflicts of interest. Tenneco requires suppliers to commit to those same standards, as embodied in Tenneco's Supplier Code of Conduct (available on our website).

C12.1b

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

Type of engagement & Details of engagement

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

% of customers by number

3

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

0

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

In addition to general communications like our Supplier Code of Conduct with our supply base, we have more focused engagement with our largest customers that represent the majority of our business revenue. Our customers must align with current and emerging technologies for fuel efficiency standards. As a part of our marketing strategy, we share information and educate our customers on the technical innovation features of our products that improve fuel efficiencies. Additionally, for large customers we have engaged and participated in their partnership, training and collaboration programmes on environmental sustainability issues.

Impact of engagement, including measures of success

Impact of our engagement is measured by our revenue and sales. Our track record of growth which outpaces the industry standard demonstrates the success of our communication and engagement with customers on topics related to the innovative nature of our energy efficient components. Examples of our engagements with large clients include: 1) We participate in Ford's Partnership for a Cleaner Environment program annually 2) Host customer technology days and step-level meeting with customers annually 3) Participate in customer Sustainability initiatives, e.g., BMW Sustainability Training for Suppliers, Scania Sustainability Supplier Day annually 4) Participate in Automotive REACH Task Force annually as a result of our efforts across our environmental, social and governance work, we have been accoladed as one of America's Most Responsible Companies 2021 for which we are in the top 300 out of the assessed 2000 largest public companies in the U.S.

Type of engagement & Details of engagement

Collaboration & innovation	Other, please specify (We collaborate with customers to advance solutions for more efficient vehicle technologies. This includes not only electric vehicles, but hydrogen and synthetic fuel solutions as well.)

% of customers by number

3

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

0

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

In addition to general communications like our Supplier Code of Conduct with our supply base, we have more focused engagement with our largest customers that represent the majority of our business revenue. Besides electrification, the use of so-called "green hydrogen", produced with renewable energy, is a viable solution to achieve climate-neutral mobility. Hydrogen can be used as fuel in combustion engines and in fuel cells. Synthetic fuels for motor vehicles can play an important role in achieving near-zero emissions mobility by using renewable energy sources to create a closed CO2 cycle when viewed from a holistic "well-to-wheel" perspective. Developing a climate-neutral alternative to petroleum-based fuels allows Tenneco's Clean Air experts to better manage remaining pollutants through the aftertreatment process while offering the potential for reducing overall emissions. Synthetically produced, climate-neutral synthetic fuels (e-fuels) are particularly suitable for vehicles with traditional ICEs as well as alternative powertrains such as hybrids. Additionally, the e-fuels can be made available to consumers by using mostly existing, well-developed fuel distribution and filling station infrastructure with only minor adjustments, making the technology even more appealing as a near-term, fast-to-market solution.

Impact of engagement, including measures of success

We continue to advance solutions for more efficient vehicle technologies, and our overall business still benefits from the market transitions because of the range of our capabilities. As we enhance efficiency by supplying components for light electric vehicles, we have the flexibility to continue improving efficiency through the internal combustion engine in the commercial truck and off-highway segment. An increasing portion of our business supports this growing segment that may not become electric as quickly as the light vehicle segment.

C12.2

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

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

C12.2a

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

Climate-related requirement
Implementation of emissions reduction initiatives

Description of this climate related requirement
Our Supplier Code of Conduct outlines our expectations and requirements when onboarding suppliers. The supplier code includes specifics on environmental sustainability, including: Energy Use and Emissions: Implement an energy reduction strategy that includes increasing its use of renewable energy to support Tenneco's objective to reduce greenhouse gas and emissions through the supply chain. Even if not specifically referenced within our contracts, the supplier code of conduct is typically referenced within our Terms and Conditions

% suppliers by procurement spend that have to comply with this climate-related requirement
79

% suppliers by procurement spend in compliance with this climate-related requirement
79

Mechanisms for monitoring compliance with this climate-related requirement
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement
Retain and engage

C12.3

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

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate
Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
No, and we do not plan to have one in the next two years

Attach commitment or position statement(s)
<Not Applicable>

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy
Activities are coordinated with the ESG team and/or Council

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

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

C12.3b

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

Trade association
Other, please specify (Motor & Equipment Manufacturers Association (MEMA))

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

Has your organization influenced, or is your organization attempting to influence their position?
We have already influenced them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
MEMA represents more than 1,000 members that manufacture motor vehicle components and systems for the original equipment and aftermarket segments of the light vehicle and heavy-duty industries. One of MEMA's divisions, The Association for Sustainable Manufacturing, contributes to the Energy & Environment policy agenda through letters, comment and testimony. Recently, Tenneco has participated in the working group that developed a comment letter for the SEC's proposed climate disclosure rule.

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

Describe the aim of your organization's funding
<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
No, we have not evaluated

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
tenneco-2021-sustainability-report.pdf

Page/Section reference
Sections – 'Our Governance' / 'Our Planet' / "Supply Chain Management"; Our Products

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

Publication
In mainstream reports

Status
Complete

Attach the document
2021-form-10-k.pdf

Page/Section reference
Sections: 'Safe Harbor', 'Business' 'Risk factors' and 'Management's Discussion and Analysis of Financial Condition and Results of Operations'.

Content elements
Governance
Strategy
Risks & opportunities

Comment

C15. Biodiversity

C15.1

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

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

C15.2

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

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

C15.3

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

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

C15.4

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

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

C15.5

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

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

C15.6

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

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

C16. Signoff

C-FI

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

C16.1

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

	Job title	Corresponding job category
Row 1	Chief Sustainability Officer (CSO)	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

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

SC0.1

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

	Annual Revenue
Row 1	18035000000

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
BMW AG

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
8706.76

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
BMW AG

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
39230.35

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Daimler Truck AG

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4353.38

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Daimler Truck AG

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
19615.17

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

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
18139.09

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Ford Motor Company

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
81729.9

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
General Motors Company

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
21766.91

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
General Motors Company

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
98075.87

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Mercedes-Benz Group AG

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
10641.6

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer. A percentage of 1.7% 2020 Value Added Revenue has been applied to estimate emissions assosiated with this customer - due to restricted visability on customers with VA revenue below 1.7% of Tenneco's total 2020 VA revenue.

Requesting member
Mercedes-Benz Group AG

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
47948.21

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer. A percentage of 1.7% 2020 Value Added Revenue has been applied to estimate emissions assosiated with this customer - due to restricted visability on customers with VA revenue below 1.7% of Tenneco's total 2020 VA revenue.

Requesting member
Mitsubishi Motors Corporation

Scope of emissions
Scope 1

Allocation level
Please select

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
2015.45

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Mitsubishi Motors Corporation

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
9081.1

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Nissan Motor Co., Ltd.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
2015.45

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Nissan Motor Co., Ltd.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
9081.1

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Renault Group

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
2015.45

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Renault Group

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
9081.1

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Stellantis N.V.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
15720.55

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer. A percentage of 1.7% 2020 Value Added Revenue has been applied to estimate emissions assosiated with this customer - due to restricted visability on customers with VA revenue below 1.7% of Tenneco's total 2020 VA revenue.

Requesting member
Stellantis N.V.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
70832.58

Uncertainty (±%)

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer. A percentage of 1.7% 2020 Value Added Revenue has been applied to estimate emissions assosiated with this customer - due to restricted visability on customers with VA revenue below 1.7% of Tenneco's total 2020 VA revenue.

Requesting member
Toyota Motor Corporation

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4837.09

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Toyota Motor Corporation

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
21794.64

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Advance Auto Parts Inc

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Advance Auto Parts Inc

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
Please select

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
CNH Industrial NV

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
CNH Industrial NV

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Jaguar Land Rover Automotive plc

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Jaguar Land Rover Automotive plc

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Magna International Inc.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Magna International Inc.

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Robert Bosch GmbH

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Robert Bosch GmbH

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
No

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
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Requesting member
Volvo Car Group

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions

Verified
Please select

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Volvo Car Group

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
18525.44

Uncertainty (±%)
100

Major sources of emissions
Electricity used to drive production equipment. Production equipment includes boilers, chillers, thermal oxidizers, furnaces/ovens, air compressors, pumps, and motors.

Verified
Please select

Allocation method
Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

Requesting member
Walmart, Inc.

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
4111.53

Uncertainty (±%)
100

Major sources of emissions
Natural gas used to drive production and other equipment, including furnaces, ovens, boilers, and thermal oxidizers.

Verified
No

Allocation method

Other, please specify (Allocation based on percentage of 2021 Value Added Revenue in line with 2021 emissions totals. Where not possible to attribute exact Value Added Revenue an assumption has been made.)

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

Unit for market value or quantity of goods/services supplied
Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The Greenhouse Gas (GHG) Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) provides the overarching methodology for Tenneco's GHG inventory. The operational control approach is used to define the Scope 1 and Scope 2 emissions included in our inventory. The GHG sources listed above are from Scope 1 and 2 reporting for vehicles and facilities. Scope 2 emissions reported are location-based. Allocations were generated to quantify customer level emissions as requested, however variability in this approach exists as current metric tracking capabilities include total company wide emissions instead of by customer.

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	The operations of our businesses and support lines are highly integrated, utilizing a central shared services infrastructure for many functions. As a result, the only feasible means for us to allocate emissions to our customers is to use corporate level data, rather than business line or facility level data.

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.

We are currently in the process of integrating a new environmental software platform in which we believe will be able to allocate the emissions to our customers. This is however a complex process that require us to track production percentages for customer and therefore will not be available in the short term.

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?
Yes

SC2.2a

(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.

Requesting member
Please select

Initiative ID
Please select

Group type of project
Please select

Type of project
Please select

Description of the reduction initiative
Example of our engagements include: 1) We participate in Ford's Partnership for a Cleaner Environment program annually 2) Host customer technology days and step-level meeting with customers annually 3) Participate in customer Sustainability initiatives, e.g., BMW Sustainability Training for Suppliers, Scania Sustainability Supplier Day annually 4) Participate in Automotive REACH Task Force annually

Emissions reduction for the reporting year in metric tons of CO2e

Would you be happy for CDP supply chain members to highlight this work in their external communication?
Please select

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?
No, I am not providing data

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please confirm below
I have read and accept the applicable Terms