

C0. Introduction

C0.1

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

Raytheon Technologies Corporation (NYSE: RTX) with 2021 net sales of \$64.4 billion, is an aerospace and defense company providing advanced systems and services for commercial, military and government customers worldwide. With four industry-leading businesses – Collins Aerospace, Pratt & Whitney, Raytheon Intelligence & Space and Raytheon Missiles & Defense – the company delivers solutions that push the boundaries in avionics, cybersecurity, directed energy, electric propulsion, hypersonics and quantum physics. The company was formed in 2020 through the combination of Raytheon Company and the United Technologies Corporation aerospace businesses, and is headquartered in Arlington, Virginia, U.S.A. To learn more, visit www.rtx.com.

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	December 1 2020	November 30 2021	No	<Not Applicable>

C0.3

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

- Canada
- China
- Israel
- Mexico
- Poland
- Singapore
- United Kingdom of Great Britain and Northern Ireland
- United States of America

C0.4

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

USD

C0.5

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

Operational control

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	US 75513E1010

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 Raytheon Technologies Board of Directors Committee on Governance and Public Policy (GPPC), which is comprised entirely of independent directors, oversees the Company's strategy, performance and goals relating to the environment and sustainability, including climate-related matters. Among other oversight duties relating to governance and social responsibility, the GPPC is responsible for the review and approval of Raytheon Technologies Corporation's (RTC's) formal sustainability goals, including targets for reduction of greenhouse gas (GHG) emissions, energy consumption, water consumption, renewable electricity usage, and waste, which are generally established for five-year periods. The GPPC receives briefings periodically (at least annually) on RTC's sustainability performance in relation to the Company's goals. Additionally, the GPPC receives periodic updates on the evolving interests and expectations of stakeholders pertaining to environmental sustainability, including climate-related issues specifically. Example of a climate-related decision made by the Committee: In 2021, the Company announced a goal to reduce GHGs from our operations 10% by 2025 from 2019 levels. Due to the increased urgency to accelerate GHG emissions reductions, the GPPC approved a longer-term, more aggressive GHG goal for the Company to reduce emissions by 46% by 2030 from 2019 levels, which aligns with a 1.5 degree Celsius science-based pathway as identified in the Paris climate agreement. As an interim milestone toward our 2030 goal, the GPPC approved raising the 2025 GHG goal to 15% (market-based) to align with a "well below 2 degree Celsius" science-based pathway. Supporting these GHG goals, the GPPC also approved 2025 goals to increase renewable electricity procurement to 10% and reduce energy consumption by 2.5%.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding major plans of action Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues 	<Not Applicable>	<p>Building on the 5-year goals it had approved in 2020, the GPPC approved in 2022 a longer-term, more aggressive GHG goal for the Company to reduce emissions by 46% by 2030 from 2019 levels. As an interim milestone toward that 2030 goal, the GPPC approved raising the Company's 2025 GHG reduction goal to 15% (market-based). And building upon the disclosure of the Company's 2020 performance against reporting elements established by the Sustainability Accountability Standards Board (SASB) for the aerospace and defense industry, the GPPC directed and provided oversight of the publication of the Company's 2021 Environmental, Social and Governance Report which tracks and discloses, among other things, Raytheon Technologies' (RTC's) 2021 performance against numerous disclosure metrics and standards established by SASB, the Task Force on Climate-Related Financial Disclosures (TCFD) and the Global Reporting Initiative (GRI). Raytheon Technologies climate change impact mitigation, and GHG emissions reduction programs have been and will continue to be reviewed and discussed periodically (at least annually) by the GPPC. The review includes a discussion of progress against program performance objectives, metrics and strategic initiatives and the impacts of facility and process infrastructure investments targeting energy efficiency and reductions in GHG emissions. In addition to the GPPC's oversight of sustainability-related matters, the Finance Committee of the Board of Directors and, in certain cases, the full Board review and approve significant capital investments. In 2021, the Finance Committee (and the Board) approved capital expenditures for research and development of various technologies, including in the areas of hybrid-electric propulsion and other sustainable aviation technologies. Beginning with 2021, the Board's Human Capital and Compensation Committee ("HCCC") incorporated into the Executive Annual Incentive Compensation Program a Corporate Responsibility Scorecard which includes qualitative objectives relating to "Sustainability and Safety" (including climate-related objectives) among other metrics. As discussed in greater detail in the Company's 2022 Proxy Statement, the HCCC evaluates progress towards these objectives as part of its annual cash incentive determination process.</p>

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	Not assessed	<Not Applicable>	<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, Operations, Supply Chain, Quality, EH&S)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Half-yearly
Other committee, please specify (ESG Steering Committee (includes the senior vice president of operations and supply chain; the chief communications officer; the chief human resources officer; the chief financial officer, the general counsel, and chief operating officer))	<Not Applicable>	Other, please specify (Driving and monitoring our ESG strategy and performance. A top ESG priority is improving environmental performance of our operations, products and business)	<Not Applicable>	Half-yearly

C1.2a

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

The Senior Vice President, Operations, Supply Chain, Quality, EH&S is the highest-ranking internal company official responsible for climate change and sustainability. He reports directly to the Chief Operating Officer and briefs the GPPC on climate, energy and other environmental issues. The Environment, Health & Safety organization and programs report to the Senior Vice President, Operations, Supply Chain, Quality, EH&S. This position maintains ongoing engagement on all EH&S activities, including those relating to climate change. This position is directly involved in setting annual and long-term sustainability goals, including greenhouse gas emissions, and tracking progress towards goals on a quarterly basis. The company's Global Security Services, which is responsible for the Business Resilience and Crisis Management program, also reports to the Senior Vice President, Operations, Supply Chain, Quality, EH&S. The Business Resilience and Crisis Management program is the company-wide effort related to building resilience to prevent business disruption due to climate change and other types of threats. When progress is not adequate, or obstacles are encountered, the Senior VP convenes the necessary people and resources to resolve the issue. As part of the Senior Leadership Team of the company, the Senior Vice President, Operations, Supply Chain, Quality, EH&S is also aware of and supports the company's decarbonization strategies.

The ESG Steering Committee, which is made up of executives representing our ESG focus areas (including climate change), is responsible for driving and monitoring our ESG strategy and performance. The ESG Steering Committee oversees teams implementing the ESG strategy, including the ESG Council and several ESG working groups. The ESG Steering Committee includes the senior vice president of operations, supply chain, quality, EH&S; the chief communications officer; the chief human resources officer; the chief financial officer; the general counsel; and the chief operating officer. The ESG Council develops our ESG strategy and takes action to improve ESG performance to meet our goals. The ESG Council includes senior leaders from each of our business units and enterprise functions who are accountable for implementing the ESG strategy in their respective business units and functions. The ESG Council partners with working groups of subject matter experts to develop programs, initiatives and metrics to meet our ESG strategy objectives.

C1.3

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

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

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Other C-Suite Officer	Monetary reward	Emissions reduction target Energy reduction project	Compensation for Corporate Senior Vice President, Operations, Supply Chain, Quality, EH&S annual salary and other compensation is partially based on the attainment of short- and longer- term performance goals, including climate-related objectives. Beginning with 2021, the Board's Human Capital and Compensation Committee ("HCCC") incorporated into the Executive Annual Incentive Compensation Program a Corporate Responsibility Scorecard which includes qualitative objectives relating to "Sustainability and Safety" (including climate objectives) among other metrics. As discussed in greater detail in the Company's 2022 Proxy Statement, the HCCC evaluates progress towards these objectives as part of its annual cash incentive determination process.
Environmental, health, and safety manager	Monetary reward	Emissions reduction target Energy reduction project	Compensation for Corporate and Business Unit EH&S management includes annual salary and other compensation based on the attainment of applicable short- and longer- term performance goals. Attainment of corporate sustainability objectives, including GHG emissions reductions and implementing GHG and energy best management practices, is included in financial compensation decisions.
Management group	Monetary reward	Emissions reduction target Energy reduction project	Compensation for Corporate and Business Unit management in various functional groups (e.g., Operations & Supply Chain, and Facilities) includes annual salary and other compensation based on the attainment of applicable short- and longer- term performance goals. Attainment of corporate sustainability objectives, including GHG emissions reductions and implementing GHG and energy best management practices, is included in financial compensation decisions.

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	5	This time horizon is aligned with similarly designated time horizons of Raytheon Technologies business practices.
Medium-term	5	10	This time horizon is aligned with similarly designated time horizons of Raytheon Technologies business practices.
Long-term	10	20	This time horizon is aligned with similarly designated time horizons of Raytheon Technologies business practices.

C2.1b

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

For the purposes of this questionnaire, Raytheon Technologies defines substantive climate-related impacts broadly to include potential impacts over \$5 million / year.

The impacts can be operational, financial, or strategic. The quantifiable indicator is "dollars of actual or potential impact." The company purposely defined it broadly in our CDP response to include many different types of impacts and to track existing and potential risks and opportunities from climate change in a more comprehensive manner.

C2.2

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

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

The company uses its Enterprise Risk Management (ERM) process to identify, understand, prioritize, and appropriately manage the full range of significant risks to the company. ERM is a year-round continuous process, led by the corporate finance organization, with an annual cycle for structured reviews, discussions, and decision-making. Each Business Unit and Corporate Function identifies their top business and compliance risks using various methods and tools. The risks can be strategic, operational, financial, reputational, or other types of business risks. The top risks are compiled annually and briefed to the Audit Committee of the Board of Directors, as well as the full Board. In connection with this process, the Board allocates oversight responsibilities for these top risks among itself and its committees. The Business Resilience and Crisis Management (BRCM) program is a key element of ERM and the identification and management of physical climate-related risks. The BRCM policy documents requirements and processes to prepare for, respond to, and recover from a wide range of risks and threats, including natural events caused by climate change. The Raytheon Technologies' (RTC's) BRCM program lead reports to the VP, Chief Security Officer, who reports to the Corporate Senior VP Operations, Supply Chain Quality and EH&S. The BRCM processes include: a) Threat and Vulnerability Assessments (TVA). Each site conducts a TVA to identify, assess, and manage different types of site-specific risks, including acute and chronic physical risks associated with climate change. The TVAs include an assessment of the probability, severity, and the ease of recovery from an event. Sites must perform a TVA at least once every 2 years using approved tools and methodologies. b) Business Impact Analyses (BIAs). These are conducted at the Company, Business, and site level to determine and assess the potential effects of an event/threat to cause an interruption to critical processes (such as facility operation, product deliveries to customers, connectivity, and supply chain). The BIAs are performed every 3 years and reviewed annually. c) Each Business's key sites must maintain an Incident Response Plan (IRP). The plans must address the potential risks identified in their TVAs throughout the value stream. The IRPs must be reviewed and updated as needed on an annual basis or as a result of actual incidents or exercises. d) Businesses, functions and sites also maintain a Business Continuity Plan (BCP) to support critical business processes. The BCPs document the resources and processes that are needed to restore critical business processes. Sites with higher risk scores from the TVA must have capabilities to respond and manage the risk commensurate with the level and type of risks. The BRCM program is implemented through a series of teams at various levels of the company who continually identify, assess, mitigate, and respond to risks. At the Corporate level, the Crisis Management Team is comprised of RTC senior leadership team members. In addition to the above, Internal Audit incorporates these risks into its annual risk assessment process and periodically audits specific risks based on prioritization. Case study of physical risk - The BRCM program has identified, assessed, and enabled sites to prepare and respond to hurricane threats and vulnerabilities. BRCM identifies specific sites that are more vulnerable to severe weather, have higher value assets, and/or supply other RTC sites with important components (higher dependencies). In addition, specific mitigation steps and facility upgrade recommendations are generated and implemented by the program. Another key process supporting ERM that is used to identify, assess, and manage climate-related risks and opportunities -- particularly transitional or market risks due to climate change -- is the company's well-defined long-range strategic planning process. Each of our business units develops strategic plans, which are the central mechanism for setting business-level operational, technology, R&D investment and funding priorities. The plans are based on extensive research and analysis on the targeted markets, changes in customer needs and priorities, customer procurement, changes in public policies, technology advances and competitor assessments. The Board of Directors is briefed on the strategic plans, which are updated annually. The company's "Technology Roadmaps" for new and innovative technologies augments and supports the Business's long-range plans and ERM process. The roadmaps are created for selected technologies that are deemed high priority for the company and our customers or have been identified as important to multiple Business Units. One example of a Technology Roadmap is for the development and deployment of hybrid electric propulsion systems. The roadmaps are also used to prioritize R&D investment. The company's R&D funding utilizes a defined, gated review process to determine which technologies get funding and at what level. Case study of transitional risk / opportunity- The strategic planning process and Technology roadmaps described above helped Raytheon Technologies identify and assess products and services that support a sustainable aviation industry. For Raytheon Technologies this includes continued research and innovation in many areas including: improved engine performance with better fuel economy, the development of hybrid electric propulsion systems, engines that can burn cleaner alternative fuels such as sustainable aviation fuels and hydrogen, lighter weight components and structures on aircraft, and optimizing flight trajectories which reduce fuel burn.

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	Current climate-related regulations are included in ongoing reviews by Business Unit programs, Government Relations, Legal, and EH&S. They are relevant because they can impact costs and operational flexibility. Example of risk type: Examples of regulations that are monitored and reviewed include: The EU Emissions Trading System, which impacts the company's aircraft flying to the EU, the EPA Mandatory Greenhouse Gas Reporting Rule for those facilities that trip the reporting levels, the New England Regional Greenhouse Gas Emissions Initiative (RGGI) which is a cap and trade program that covers one of our sites that has co-generation operations, UK's Streamlined Energy and Carbon Reporting (SECR) framework, and U.S. EPA's regulation of GHG emissions from aircraft.
Emerging regulation	Relevant, always included	Raytheon Technologies tracks and monitors proposed climate-related regulations, laws, and other emerging policies that might impact operations or markets that we engage in. The regulations could impose added operational costs or required changes in our manufacturing. One example is potential regulations proposed by the U.S. and EU regulators for new jet aircraft engine emissions, which potentially could have an impact on our Pratt & Whitney jet engines and our customer's use of those products. Another example is greenhouse gas cap and trade regulations that have been proposed in the past that would cover several of our larger facilities. A third example is various proposed energy and/ or carbon tax systems that we are evaluating because of their potential impact to the company. Multiple functional groups assist in the tracking of proposed climate-related requirements including Government Relations, Program Offices, Strategy organizations, and EH&S. Examples of risk type: Examples of emerging regulations that are being tracked and considered include: 1) European Green Deal provisions and implementation measures in the Fit for 55 package, 2) the U.S. Sustainable Aviation Fuel and Blender's Tax Credit proposal, 3) EU Carbon Border Adjustment Mechanism, and 4) U.S. EPA's HFC emission phase out from air conditioners and refrigerants.
Technology	Relevant, always included	Technology is paramount to the company's products and success, as such Raytheon Technologies always includes technology parameters in its risk assessments and strategic planning processes. The commercial aviation's drive for a more sustainable industry has required significant investment and investigation of new technologies, alternative power sources, new materials and airframe structures, and different fuels. The costs of R&D investment add to the company's operating costs. The development of new and superior technologies, and to be first in market implementation, is an important business goal. Examples of risk type: Examples of sustainable technology focus areas included on RTC's technology roadmap are: 1) Engine efficiency 2) Hybrid-electric propulsion 3) Hydrogen-fueled propulsion 4) Lighter-weight, energy-efficient systems and equipment 5) Trajectory-based operations (TBO) 6) Airport and airline operational efficiencies 7) Alternative aviation fuel (AAF)
Legal	Relevant, always included	Raytheon Technologies always considers legal risks in its risk assessment. This includes current regulations, laws, or other policies, as well as emerging regulations, laws, or other policies. Risks can drive up costs and impact operations. This is particularly evident with the widespread global growth of climate related regulations and governmental policies. Legal requirements of our customers and contract requirements are also factored in. We assess legal risks through partnership with Corporate and Business-level legal departments, as well as integration into RTC's site-specific Threat and Vulnerability Assessment process. Examples of risk type: Examples of legal requirements we consider include: 1) the EU Emissions Trading System, 2) U.S. EPA Mandatory Greenhouse Gas Reporting Rule, 3) New England Regional Greenhouse Gas Emissions Initiative (RGGI), 4) UK's Streamlined Energy and Carbon Reporting (SECR) framework, 5) U.S. EPA's regulation of GHG emissions from aircraft, and 6) Customers' Supplier Code of Conduct requirements, and other legal requirements contained in existing contracts with our customers.
Market	Relevant, always included	Raytheon Technologies' and Business Units continuously monitor and evaluate the market sectors that they operate in to determine changes in customer demands and priorities. This process is incorporated in the company's strategic long-range planning process, and key to the company's business strategy. Significant research and analyses are conducted on all our targeted markets to assess trends, customer changes, and competitor capabilities and assessments. Climate change has created new and expanded markets for low or no carbon emission products and services, sustainable aviation technologies, and climate adaptation products and services. Examples of risk type: Example of changing and new markets being considered include: 1) electric-powered aircraft for short-range, regional, helicopter, and single aisle applications, 2) hybrid electric aircraft market, 3) emerging urban mobility market including drones for deliveries and new modes of transport, 4) increased markets for climate adaptation products and services such as Raytheon Intelligence & Space's (RIS) weather sensing and analysis capabilities (see C2.4, Opportunity 2).
Reputation	Relevant, always included	Raytheon Technologies (RTC) always includes reputational factors in its risk assessment since reputation can help or harm the company brand. Damage to reputation could also be generated if the company did not have a robust sustainability program, was not committed to making GHG emission reductions, or did not comply with climate-related regulations. Examples of risk type: Examples of risk types being considered are environmental / sustainability reputation, and Corporate Social Responsibility reputation. These two factors are important to RTC's overall reputation. Numerous external sustainability rankings and ratings score Raytheon Technologies performance and standing, which RTC continuously monitors. Raytheon Technologies has received numerous awards and recognition over the last 2 decades for its accomplishments in energy and GHG reductions. Examples include the U.S. EPA ENERGY STAR Partner of the Year Sustained Excellence Award, and recognition for setting and achieving aggressive GHG reduction goals from EPA, The Climate Registry and the Center for Climate and Energy Solutions (C2ES).
Acute physical	Relevant, always included	Acute physical risks are included in the company's risk assessment. These risks are covered in the Business Resilience & Crisis Management program. Key sites conduct a Threat and Vulnerability assessment every 2 years, which includes physical risks. The impacts of acute physical risks go well beyond the physical boundaries of our facilities and include our employees, supply chain, distribution networks, and customers. Examples of risk type: Examples of acute physical risk types considered are the increase in the number and severity of weather events, like hurricanes, tornadoes, flooding, snow and ice storms, fires, heat waves, droughts, and mud slides at the company's facilities around the world.
Chronic physical	Relevant, sometimes included	The risks associated with longer term chronic physical changes in weather patterns, sea level rise, temperature increases, drought, and other climate change impacts are sometimes considered by Raytheon Technologies, but not as regularly as acute physical risks. These risks are factored into the company's Business Resilience & Crisis Management (BRCM) process as individual sites conduct their specific Threat and Vulnerability Assessments. Examples of risk type: Examples of chronic physical risk types considered include changing weather patterns, sea level rise resulting in more frequent flooding, temperature increases and heat waves, and drought. An example of a chronic physical change that the company faces at several of its facilities is the increase in the number of days that are over 90 degrees F (Fahrenheit) in temperature (e.g., at its Arizona facilities). Such extreme temperature increases the demand for electricity for air conditioning and puts stress on the local electricity power grid, which may result in power outages and cause business interruptions. Specialized temperature-controlled manufacturing environments (e.g., cleanrooms) could be vulnerable. It could also lead to a reduction in employee productivity for employees that are not in air-conditioned spaces if the temperature forces employees to slow down their activities or take more frequent breaks.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Policies and regulations that put a price on carbon is one of the mechanisms that governments can use to drive reductions in GHGs. It can take the form of a direct carbon tax or be part of an Emissions Trading System. The United Kingdom and many countries in the European Union already have some form of carbon pricing, but the scope of emissions that are covered varies. Raytheon Technologies has facilities in the UK and EU; however, they comprise less than 10% of the company's emissions. It is anticipated that more countries will implement carbon pricing mechanisms in the future to achieve their Paris Climate Agreement commitments (Nationally Determined Contributions). The financial impact of carbon pricing on RTC depends on the set price; what emissions it applies to (e.g., Scope 1 only vs. Scope 1 and 2; power plant emissions only vs manufacturing industry); which countries mandate them and RTC's profile in these countries; and the phase-in schedule. As RTC continues to implement its decarbonization roadmap, company emissions will decline leading to fewer emissions that a carbon tax would apply to.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

17800000

Potential financial impact figure – maximum (currency)

47800000

Explanation of financial impact figure

To estimate the potential financial impact of carbon pricing, we assumed variables for three factors: 1) the potential regulatory carbon price, 2) the percent of RTC emissions the carbon tax would apply to, and 3) the total company's emissions. A carbon price range of between \$35 - \$50 was assumed in the estimate. According to IHS Markit's Global Carbon Index, the average weighted carbon price was \$34.99 as of June 2021. The Index tracks carbon credit markets globally and consolidates data from the European Union Allowances (EUA), California Carbon Allowance (CCA), and Regional Greenhouse Gas Initiative (RGGI). We assumed that the carbon price increases over time to \$50 by 2030. We assumed a range of total emissions from 2021 levels (1.45 M mtCO₂e) to our projected 2030 emissions where our 2030 goal is achieved (approximately 955K mtCO₂e). We also assume the percent of RTC emissions that the carbon tax would apply to ranges from 35% (which is the percent of emissions that Scope 1 represents) to 100%. The use of carbon pricing mechanisms by countries is likely to increase overtime leading to a higher percentage of our emissions being subject to future carbon taxes. On the low end of the range, the calculation is: \$35/mtCO₂e x 1.45M emissions x 35% = \$17.8M / year. On the high end of the range, the calculation is: \$50/mtCO₂e x 955K mtCO₂ x 100% = \$47.8M / year.

Cost of response to risk

12000000

Description of response and explanation of cost calculation

The primary methods for managing this risk are to continue to implement initiatives and programs to reduce the company's energy consumption, increase energy efficiency of its buildings and manufacturing equipment, reduce greenhouse gas emissions, and increase the use of renewable energy in order to stay under regulatory applicability threshold levels. This is driven by the company's GHG reduction goal, and a companion goal to implement 11 energy/GHG best management practices throughout the company. These projects include investing in building and equipment upgrades, and pursuing changes in operations and manufacturing processes. The estimated cost of responding to the risk in 2021 is estimated to be \$12 million/year. This number represents the investments made in 2021 to reduce energy / greenhouse gas emissions from facility energy projects. This amount may increase in the future as our decarbonization efforts accelerate. Case Studies: 1) A case study of how Raytheon Technologies is implementing energy projects in order to manage this risk includes its robust energy management program, which in 2021 resulted in the completion of numerous LED lighting upgrades at many of our sites, replacing several chillers, compressed air optimization, and implementation of numerous building HVAC control enhancements to reduce energy consumption. 2) Another method for managing this risk is investigating the feasibility of renewable energy projects, both on-site and off-site, such as off-site wind and on-site solar. Energy generated with renewable resources would not be covered by most carbon pricing systems or climate regulations. In the last several years, RTC has investigated numerous renewable projects and has increased the percent of renewable electricity that it procures to 3.5% of the total electricity in 2021.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increased severity and frequency of extreme weather events such as severe storms, tornados, hurricanes and wildfires)
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Raytheon Technologies (RTC) has significant properties in approximately 30 countries, with approximately 540 significant properties comprising approximately 75 million square feet of productive space. Approximately 30% of our square footage related to our significant properties is leased, and 70% is owned. Approximately 60% of our square footage related to our significant properties is located in the United States. Some of the properties are located in areas historically impacted by extreme weather events, such as hurricanes, tornadoes, severe lighting storms, floods, heat waves, and drought conditions that cause forest fires. For example, RTC has facilities in "hurricane alley" in the U.S., including FL, MS and TX and several facilities in the mid-west and central U.S. that are prone to tornadoes. Severe weather events have the potential to cause several impacts to the company such as: business interruption, property damage, damage to products and other assets, the welfare of RTC's employees and their property, and damage to suppliers', subcontractors' and service providers' property/assets. Potential financial impacts will be greater at sites with higher asset values and those with more interdependencies with other company sites (e.g., they supply parts or components to other sites). The number and severity of severe weather events are forecasted to increase over time due to the impacts of climate change. An example of the impacts of physical risks to the company was a significant flooding

event by an RTC fabrication operation in New Jersey in September 2021, connected with the remnants of Hurricane Ida. The location sustained almost 9 inches of rain in less than a 24-hour period, causing significant damage to the facility and assets in the building. Another example of extreme weather-related risk occurred in February 2021 when Texas (where RTC has several facilities) was gripped by winter storms and freezing rain. Temperatures plunged between 10 and 20 degrees F causing residents to increase electricity use during a period of insufficient generation of power which resulted in loss of electricity across the grid and freezing pipes. Increased cost of fuel to operate generators during power outages and increased electric costs to heat facilities and repair broken water pipes was experienced as well as business disruptions caused by employees unable to get to work or attending to personal property damage.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

300000

Potential financial impact figure – maximum (currency)

10000000

Explanation of financial impact figure

The range of potential financial impacts in any given year varies significantly and is estimated between \$300,000 - \$10 million. It is impossible to predict the number and severity of weather events that would impact our facilities. Therefore, the financial impact range is highly speculative. The range was calculated based on estimated potential loss expectancies (including business interruptions) and an assumed number and severity of weather events impacting the company. On the low end, it is assumed that the company is impacted by 1 weather event leading to relatively small impacts (\$300,000). On the high end of the range, it is assumed that Raytheon Technologies is impacted by 1 or 2 events that cause significant impact to the facilities and the company in one year. The probability of incurring the high estimate value is very low to possible. Severe weather events can damage property, damage assets within the facility, cause business interruptions at the site, and lead to second order business disruptions if there are key interdependencies with other sites and product lines. Damage will be higher at larger sites, those with higher asset values, sites that have more interconnections with other sites (i.e., they supply parts or components to other company sites), and sites with greater natural hazards. There are additional financial implications to our business operations if one or more of our supplier's facilities was damaged or otherwise impacted, especially if it is a critical or sole-source supplier.

Cost of response to risk

Description of response and explanation of cost calculation

We are not able to reasonably estimate the cost of responding to this risk. However, below is a description of some of the different ways the company manages this risk. 1) We work with our property insurance company to conduct Facility Hazard Audits of our facilities. The insurance company assesses risks and provides recommendations to enhance facility resiliency. In addition, sites have capital expenditure budgets that include many different building envelope improvements. 2) We maintain a strong Business Resiliency & Crisis Management (BRCM) program (as reported in C2.2) which requires sites to conduct Threat and Vulnerability Assessments, conduct Business Impact Analyses, and develop Continuity and Recovery plans to prepare for events. 3) We maintain property and business interruption insurance which protects the company against significant losses.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Technology	Transitioning to lower emissions technology
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The company is subject to market/ technology risks as a result of climate change. These risks are associated with increasing demands for offerings focused on addressing climate change, transitioning to lower emission technologies for our products, including low to no carbon products and services, the use of alternative energy sources and other sustainable aviation technologies, and climate adaptation products and services. We are also seeing increasing focus on our environmental sustainability commitments with respect to our operations, products and suppliers. As a result, we anticipate that we will need to make additional investments in new technologies and capabilities and devote additional management and other resources to this transition. We may not realize the anticipated benefits of these investments and actions for a variety of reasons, including technological challenges, evolving government and customer requirements and our ability to anticipate them and develop in-demand technologies on a timely basis, and other risks related to the development of advanced technologies. In addition, certain technologies will be dependent upon government action, such as investments in infrastructure, creating appropriate market incentives and making certain raw materials available for development of certain technologies. Moreover, we will rely on our suppliers to timely and effectively adapt and meet our evolving technological supply needs. We also face competition risks as our competitors also respond to advancing sustainable technologies. Our competitors may develop these in-demand technologies before we do, their new technologies may be deemed by our customers to be superior to technologies we may develop, and their technologies may otherwise gain industry acceptance in advance of or instead of our products. In addition, as we and our competitors develop increasingly sustainable technologies, demand for our older offerings may decrease or become non-existent.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-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

The potential financial impact of transitioning to lower emissions technology cannot be reasonably estimated due to many uncontrollable variables. Raytheon Technologies has 2 businesses focused on the aviation sector, a sector that is already seeing significant activity to transition to sustainable technologies: Pratt & Whitney, and Collins Aerospace. Their 2021 revenues were \$18.2 billion, and \$18.4 billion respectively, with revenues significantly lower than 2019 primarily due to the economic environment principally driven by the COVID-19 pandemic. Jet engines and aircraft components produced by Raytheon Technologies are used by customers around the world.

Cost of response to risk

Description of response and explanation of cost calculation

In 2021, the company joined Air Transport Action Group's (ATAG's) "Fly Net-zero" commitment to achieve industrywide net-zero carbon emissions in civil aviation by 2050. We developed a technology roadmap to achieve that ambition. It includes 7 technology focus areas: 1) Engine efficiency. Continuously striving to improve our current and future line of engines to deliver maximum performance and efficiency, reducing emissions in use. 2) Hybrid-electric propulsion. Optimally pairing aircraft engines with electric motors, battery systems and controls to reduce fuel needs and reduce emissions. 3) Hydrogen-fueled propulsion. Developing advanced concepts for hydrogen-burning aircraft engines or hydrogen fuel cell electric propulsion systems, which would result in zero carbon emissions during flight. 4) Lighter-weight, energy-efficient systems and equipment. Ensuring our components and systems are designed to be the lightest, most energy efficient and safest products made, reducing aircraft fuel consumption and contributing to overall aircraft energy efficiency. 5) Advancing trajectory-based operations (TBO). Enabling the most efficient TBO to reduce fuel burn and emissions via Global Positioning System based (GPS-based) navigation, airline flight planning and dispatch tools, avionics and pilot tools, air traffic management surveillance and automation systems, and data communications. 6) Airport and airline operations. Building the systems and tools for passengers, airlines and airports to help the air transportation ecosystem operate as seamlessly as possible, ensuring maximum efficiency and minimum waste. 7) Alternative aviation fuel (AAF). Working across the value chain to prepare current and future engines to run on green alternatives to fossil-based jet fuels to reduce emissions, including SAF, and long-term alternatives such as hydrogen-based fuels. We are unable to reasonably estimate the cost of responding to this risk due to too many variables such as technology advancements, R&D funding, customer requirements, regulatory landscape, market competitors, governmental funding and incentives for new technologies, etc. In 2021, the company spent a total of \$7.2 billion in customer- and company-funded R&D. A significant amount of this funding goes toward sustainable technology and innovation for both civil aviation and defense sectors.

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Climate change and the aviation industry's aggressive net zero by 2050 goal is driving the industry to innovate. In 2021, RTC joined Air Transport Action Group's (ATAG's) "Fly Net-zero" commitment to achieve industrywide net-zero carbon emissions in civil aviation by 2050. We developed a technology roadmap to achieve that ambition. RTC is well positioned to be a leader in sustainable aviation technologies and capture new business opportunities. The company's focus areas include the following: 1) Engine efficiency. Continuously striving to improve our current and future line of engines to deliver maximum performance and efficiency, reducing emissions in use. 2) Hybrid-electric propulsion. Optimally pairing aircraft engines with electric motors, battery systems and controls to reduce fuel needs and reduce emissions. 3) Hydrogen-fueled propulsion. Developing advanced concepts for hydrogen-burning aircraft engines or hydrogen fuel cell electric propulsion systems, which would result in zero carbon emissions during flight. 4) Lighter-weight, energy-efficient systems and equipment. Ensuring our components and systems are designed to be the lightest, most energy efficient and safest products made, reducing aircraft fuel consumption and contributing to overall aircraft energy efficiency. 5) Advancing trajectory-based operations (TBO). Enabling the most efficient TBO to reduce fuel burn and emissions via Global Positioning System based (GPS-based) navigation, airline flight planning and dispatch tools, avionics and pilot tools, air traffic management surveillance and automation systems, and data communications. 6) Airport and airline operations. Building the systems and tools for passengers, airlines and airports to help the air transportation ecosystem operate as seamlessly as possible, ensuring maximum efficiency and minimum waste. 7) Alternative aviation fuel (AAF). Working across the value chain to prepare current and future engines to run on green alternatives to fossil-based jet fuels to reduce

emissions, including SAF, and long-term alternatives such as hydrogen-based fuels.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-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

It is not yet possible to assess the potential financial opportunities created by climate change and the transition to a sustainable aviation industry due to too many unknown parameters such as speed of technology developments, level of R&D funding and governmental support, regulatory schemes, market competition, customer demand, etc. Raytheon Technologies has 2 businesses with significant focus on the commercial aviation market: Pratt & Whitney, and Collins Aerospace. Their 2021 revenues were \$18.2 billion, and \$18.4 billion respectively, with revenues significantly lower than 2019 primarily due to the economic environment principally driven by the COVID-19 pandemic. Jet engines and aircraft components produced by Raytheon Technologies are used by customers around the world.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

We have developed strategic technology roadmaps for numerous technology areas and continue to make investments in advanced technologies. In 2021, Raytheon Technologies spent \$7.2 B in customer- and company-funded Research and Development. A significant amount of this funding goes towards sustainable technology and innovation for both civil aviation and defense sectors. A second important strategy Raytheon Technologies utilizes to pursue these opportunities is continual engagement with our customers, trade associations, universities, research organizations, regulating bodies, and other organizations to identify customer needs, monitor technology developments, and integrate this information into our business strategies. Listed below are examples of initiatives relating to pursuing such opportunities: 1) Collins, Pratt & Whitney and RTC Research Center are partnering with NASA, Penn State University, Georgia Tech and Howard University to develop hybrid-electric propulsion technologies. 2) Pratt & Whitney, Collins and De Havilland Aircraft of Canada are working on a \$163 million Canadian Dollars project to develop a regional aircraft-scale hybrid-electric demonstrator that is 30% more fuel efficient than today's best turboprops. It is supported by the governments of Canada and Quebec. 3) Pratt & Whitney was selected by the U.S. Department of Energy to develop novel, high-efficiency hydrogen-fueled propulsion technology for commercial aviation, as part of DOE's Advanced Research Projects Agency-Energy. 4) Deploying an electrified Environmental Control System (ECS) for the Boeing 787 to improve energy efficiency, reduce fuel consumption, and lower emissions. This system pressurizes and conditions cabin air by using electric power from the engine generators to drive compressors, taking fresh air via dedicated inlets instead of the more traditional approach of taking bleed air from the engine 5) Converting hydraulic actuation to electric actuation, improving overall system efficiency and weight, such as in the electric actuation flight control systems on the Airbus A380. Cost to realize opportunity - We are unable to reasonably estimate the cost of realizing these opportunities due to too many variables such as speed of technology advancements, R&D funding levels, customer requirements, regulatory landscape, market competitors, governmental funding/incentives for new technologies, and the long time horizon required for significant technology changes.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of climate adaptation, resilience and insurance risk solutions

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Physical impacts of climate change (e.g., hurricanes, tornadoes, severe storms, rising sea level, rising temperatures, etc.) may present potential business opportunities for both existing and new Raytheon Technologies products and services as a result of increased demand for climate-adaptation solutions. The company has several technologies and products related to weather and climate instrumentation and analysis that are likely to increase in demand to help meet the demand for improved data and analysis relating to climate data and weather forecasting. They include: 1) EVI-5 GLIMR (Geosynchronous Littoral Imaging and Monitoring Radiometer): A new NASA mission utilizes this instrument which is designed to closely monitor the health of our oceans and assess risks for coastal communities to protect both our environment and our economy. It will provide unique observations of ocean biology, chemistry, and ecology in several regions. 2) MODIS (Moderate Resolution Imaging Spectroradiometer): This system is flying on NASA Earth Observation System (EOS) satellites Aqua and Terra, and helps scientists determine the amount of water vapor in a column of the atmosphere and the vertical distribution of temperature and water vapor—measurements crucial to understanding Earth's climate system. 3) VIIRS (Visible Infrared Imaging Radiometer Suite): Part of the Joint Polar Satellite System (JPSS) for NASA and NOAA. Using VIIRS data, scientists can measure cloud and atmospheric particle properties, ocean color, sea and land surface temperature, ice motion and temperature, fires, and the amount of sunlight reflected from the Earth's surface. 4) GeoXO (Geostationary Extended Observations) ACX: Part of the new NOAA GEO Earth observing capabilities. It takes atmospheric composition measurements that will improve air quality monitoring to mitigate health impacts from pollution and smoke. 5) GeoXO OCX: Part of the new NOAA GEO Earth observing capabilities. It will provide observations of ocean biology, chemistry, and ecology to assess ocean productivity, ecosystem change, coast/inland water quality, and hazards like harmful algal blooms. 6) GeoXO GXI: Part of the new NOAA GEO Earth observing capabilities. It improves upon the existing GOES imager by providing more detailed observations and more precise tracking of severe weather. It will also detect wildfires four times smaller, potentially increasing lead time to respond before fire gets out of control.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

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

It is not yet possible to assess the potential financial impacts of this opportunity due to too many unknown parameters such as customer demand and expectations, level of R&D funding, market competition, etc. Raytheon Technologies has several different products, services, and expertise that may increase in demand due to climate change and as the need increases for improved data and analysis relating to climate data and weather forecasting. This is likely to lead to additional revenues. In addition, it is likely new programs will be developed by current and new customers. The potential financial impact (revenue) figure could be in the billions over the 10 -year period or so. There are current NASA and NOAA weather-related programs of this financial size.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

We are unable to reasonably estimate the cost of realizing this opportunity due to too many variables and unknowns such as customer requirements, technology advancements, market competitors, etc. Raytheon Technologies plans to continue investing research and development dollars to maintain its leadership in the science of this area. The company actively manages and maintains existing products and services and is continually looking for new ways and new markets in which to deploy them. We also evaluate methods to enhance the products to meet new customer demands. A key Raytheon Technologies strategy to realize this potential opportunity is to engage and dialogue with our customers, governmental agencies, trade associations, military experts, universities, and think tank organizations on potential future needs and requirements of existing and future customers. Another strategy we pursue is investment in R&D to continue to lead the scientific study and understanding in this field, which is a discriminating factor that enables us to continue our leadership position in this area.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Move to more efficient buildings

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Increased resource efficiency is a potential climate-related opportunity which would reduce the company's utility costs, reduce operating costs and make the company more competitive. Many new innovative building and manufacturing processes and equipment are being developed as a result of the focus on climate change. As the company seeks to minimize the financial impact of future energy and climate regulations, we are aggressively pursuing energy and GHG reduction measures. Many of these projects are energy conservation and energy efficiency projects, which ultimately lower our energy bill and make the company more resource efficient. These projects include implementing building upgrades, enhancing maintenance activities, installing energy efficient equipment and control systems, and installing onsite solar projects. One of Raytheon Technologies 2025 Sustainability goals is to implement energy best management practices at over 200 facilities in order to increase the energy efficiency of its buildings and reduce costs.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1230000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The \$1,230,000 potential financial impact number represents an estimate of the annual energy savings as a result of our continued investment in energy efficiency and GHG emissions reduction projects. It is based on estimated annual savings of the energy/GHG projects that we implemented in 2021.

Cost to realize opportunity

12000000

Strategy to realize opportunity and explanation of cost calculation

The \$12 M per year cost represents an estimate of potential costs associated with our continued investment in energy efficiency and GHG emissions reduction projects. The number represents the investments made in 2021 to reduce energy / GHG emissions from facility energy projects. Increasing energy efficiency at our facilities will require capital and operating expenses. The costs are dependent on the size, type and number of energy projects that are implemented. Many of the less expensive projects, and those with a short payback period have already been implemented at many of our facilities, therefore investment cost may rise over time. However, this may be offset by increased costs of energy, resulting in higher savings from the investment. Case Studies: We address the risks in order to realize this opportunity in several different ways: 1) Our sites conduct periodic energy audits. The audits are required by our Corporate Energy and GHG Policy. Projects and recommendations identified by the audits are then considered for funding and implementation. 2) We set a long-term goal to reduce GHG emissions by 10% by 2025. Each Business Unit has the same goal. The goal helps drive sites to continually identify, assess, and implement energy projects. (In 2022, RTC increased its 2025 reduction goal to 15% and set a 2030 goal to reduce 46% from 2019 levels). 3) The company also has a formal sustainability goal to implement 11 energy/GHG best management practices by 2025. These BMPs include establishing an energy/GHG team, identifying significant users, creating a plan to upgrade lighting to LED where practical, evaluating automated building management systems, and examining building systems such as HVAC, boilers, insulation, and compressed air. 4) We also are an active member of the U.S. EPA ENERGY STAR program and have won the Partner of the Year Sustained Excellence Award for 14 consecutive years. Our participation in the program has helped us enhance our energy program through various ENERGY STAR tools, campaigns and guidelines, as well as the ability to leverage best practices from other member companies at conferences and workshops.

Comment

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, our strategy has been influenced by climate-related risks and opportunities, but we do not plan to develop 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

We are continuing to assess the potential impacts of climate change on our business (including both physical risks and transition risks) and develop mitigation and adaption plans to manage the risks. We already have many of the key elements of a Climate Transition Plan, as identified in CDP’s Climate Transition Plan: Discussion Paper including: 1) governance systems, 2) scenario analysis, 3) value chain engagement, 4) processes to identify and assess potential climate risks and opportunities, 5) targets, and 6) emissions verification. One key transition the company is making in response to climate change is focusing on sustainable aviation and the necessary technologies, innovation, customer engagement, and R&D funding. We have developed technology roadmaps to guide our strategy and funding. For our operations (scope 1 and 2 emissions), the company recently set an additional greenhouse gas emissions goal (2030) which aligns with a 1.5 degree C pathway and needed pace of reductions.

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

<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	IEA SDS	Company-wide	<Not Applicable>	Rationale for scenario selection: The International Energy Agency’s (IEA’s) Sustainable Development Scenario (SDS) was selected as one of the scenarios to evaluate because it is aligned with the Paris Climate Agreement goal of limiting global temperature increase to “well below 2 degrees C” by the end of the century. Parameters, assumptions, analytical choices: IEA’s annual World Energy Outlook report explores various scenarios. They are based on projections generated by IEA’s World Energy Model (WEM) and the Energy Technology Perspectives (ETP) model. The WEM is a large-scale simulation model designed to replicate how energy markets function. The model consists of three main modules: final energy consumption (covering residential, services, agriculture, industry, transport and non-energy use); energy transformation including power generation and heat, refinery and other transformation – such as coal to liquids or hydrogen production; and energy supply. The scenarios also consider other elements and influences including the economic and demographic context, technology costs and learning, energy prices and affordability, corporate sustainability commitments, and social and behavioral factors. The Sustainable Development Scenario (SDS) was one of the scenarios modeled in the World Energy Outlook 2021. It is a normative scenario in that it is designed to achieve a specific outcome– limiting the global temperature rise to “well below 2 °C” which is the goal of the Paris Agreement. In addition, it achieves key energy-related United Nations Sustainable Development Goals (SDGs) related to universal energy access and major improvements in air quality and reaches global net zero emissions by 2070 (with many countries and regions reaching net zero much earlier). The SDS scenario is based on a surge in clean energy policies and investment that puts the energy system on track for key SDGs. It assumes all current net zero pledges are achieved in full and there are extensive efforts to realize near-term emissions reductions. It also assumes that advanced economies reach net zero emissions by 2050, China around 2060, and all other countries by 2070. An inventory of the key policy assumptions available along with all the underlying data on population, economic growth, resources, technology costs and fossil fuel prices are available in WEO-2021, IEA website, and associated data sets. Time horizon: 3 time horizons were considered: 2030, 2040 and 2050.
Transition scenarios	IEA NZE 2050	Company-wide	<Not Applicable>	Rationale for scenario selection: The International Energy Agency’s (IEA’s) The Net Zero Emissions by 2050 Scenario (NZE) was selected as one of the scenarios to evaluate because it is aligned with the Paris Climate Agreement’s ultimate goal of limiting global temperature increase to 1.5 degree C by the end of the century. Parameters, assumptions, analytical choices: IEA’s annual World Energy Outlook report explores various scenarios. They are based on projections generated by IEA’s World Energy Model (WEM) and the Energy Technology Perspectives (ETP) model. The scenarios also consider other elements and influences including the economic and demographic context, technology costs and learning, energy prices and affordability, corporate sustainability commitments, and social and behavioral factors. The Net Zero Emissions by 2050 (NZE) Scenario was one of the scenarios modeled in the World Energy Outlook 2021. It is a normative scenario in that it is designed to achieve a specific outcome– limiting the global temperature rise to 1.5 °C (without a temperature overshoot) which is the ultimate goal of the Paris Agreement to minimize the most harmful impacts of climate change. In addition, it achieves key energy-related United Nations Sustainable Development Goals (SDGs) related to universal access to energy and major improvements in air quality. It assumes a significant reduction in GHGs by 2030 in order to meet net zero CO2 emissions by 2050. The temperature then starts to decline slowly as a result of continued reductions in non-CO2 emissions, and by 2100 the rise in temperature has fallen to around 1.4 °C. Some of the key scenario assumptions include: a) countries go well beyond existing pledges; b) orderly transition across the energy sector to low-carbon resources; c) uptake of all the available technologies and emissions reduction options; d) reduction of methane emissions far more quickly than the other scenarios; and e) cooperation among all countries toward the net zero goal. An inventory of the key policy assumptions available along with all the underlying data on population, economic growth, resources, technology costs and fossil fuel prices are available in WEO-2021, IEA website, and associated data sets. Time horizon: 3 time horizons were considered: 2030, 2040 and 2050.
Transition scenarios	Customized publicly available transition scenario	Company-wide	1.6°C – 2°C	Rationale for scenario selection: The scenarios contained in the Air Transport Action Group’s (ATAG’s) Waypoint 2050 Report were selected to be evaluated because they are aviation-specific and relevant to our industry. Parameters, assumptions, analytical choices: The Waypoint 2050 report, issued in September 2020, was developed collaboratively over 2 years by experts from across the aviation sector. It identifies 3 different scenarios to cut CO2 emissions by 50% by 2050 from 2005 levels, which is aligned to a “well below 2 degree” pathway consistent with the Paris Agreement goal. The 50% goal was the aviation sector’s goal at the time the report was issued. (Note: In 2021, the aviation sector raised its goal to Net Zero emissions by 2050). The scenarios are built on a range of sub-scenarios covering technology developments; operations and infrastructure improvements (e.g., airspace trajectory efficiencies and congestion decrease); and sustainable aviation fuel (SAF). An annual traffic growth of 3% is assumed. There is minor use of carbon offsets as a transition mechanism. Scenario 1: Pushing technology and operations: a) Technology: Prioritized development of electric and hybrid electric aircraft in the short-range and <100 seat category with entry into service from 2035-2040. b) Operations: High-range improvements and airline load factor improvements. c) SAF: Accounts for approximately 61% of the reductions. Scenario 2: Aggressive sustainable fuel development: a) Technology: Technology improvements are still prioritized but less ambitious than scenario 1. Assumes new airframe configurations with substantial aerodynamics performance such as blended wing body, but not a significant shift to electric or hybrid. b) Operations: Mid-range improvements and airline load factor improvements. c) SAF: SAF accounts for approximately 75% of the reductions. Scenario 3: Aspirational and aggressive technology perspective: a) Technology: Very aggressive acceleration of the introduction of electric, hybrid and zero-emissions (hydrogen) aircraft in the 2035 - 2040 timeframe. b) Operations: Mid-range improvements and airline load factor improvements. c) SAF: Accounts for approximately 50% of the reductions. Detailed information about the parameters, assumptions, and analytical choices are contained in the Waypoint 2050 report. Time horizon: 3 time horizons were considered for each scenario: 2030, 2040 and 2050.

C3.2b

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

Row 1

Focal questions

We used 3 primary focal questions to help provide direction for the climate scenario analysis. 1) What aspects of the scenarios and their associated policy assumptions have the greatest potential to impact our company? 2) In which time horizon will the greatest potential impact to the company occur? 3) What actions can the company take to mitigate the potential impacts? We selected the scenarios above in order to facilitate discussions around the focal questions. We wanted to include both cross-sector scenarios (e.g., SDS and NZE) and aviation specific scenarios that are more directly relevant to our industry.

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

What aspects of the scenarios and their associated policy assumptions have the greatest potential to impact our company? • Policies that promote the production and use of alternative fuels and renewables would have a favorable impact on the company, since most of our emissions are related to energy consumption. • The introduction of CO2 prices would have a potential to impact the company, but its impact depends on the price, what emissions it applies to, which countries mandate them, and the timing of implementation of the tax. • Some building sector policies assumed in the scenarios would potentially be impactful such as net zero emission requirements for buildings. • Policies that promote development and use of Sustainable Aviation Fuel (SAF) would have a positive impact on the company since SAF is the single largest opportunity to decarbonize the aviation industry and all of Pratt & Whitney’s engines are compatible with the current ASTM specifications for SAF. • Aviation scenarios assume significant enhancements in sustainable aviation technologies but vary in the degree and type of technology development and deployment. This market / technology risk could positively or negatively impact the company. See Q2.3 - Risk 3, and Q2.4 - Opportunity 1 for more details. • We also examined several potential climate policies that are being considered by the U.S. Department of Defense (DoD) and the Federal Acquisition Regulatory (FAR) Council. Integrating climate factors and criteria into DoD procurement decisions (e.g., social costs of carbon, use-phase emissions, and life-cycle assessments) could potentially be impactful to the company, either positively or negatively. In which time horizon will the greatest potential impact to the company occur? Impacts of the scenario elements vary over the three time horizons examined, but the greatest potential impacts fell in the short- and mid-term horizons as the company is implementing its decarbonization roadmap, transitioning to more sustainable technologies and products; and upgrading its facilities to be more energy efficient. What actions can the company take to mitigate the potential impacts? While evaluating scenario elements, we discussed what measures or actions could help mitigate potential impacts. Key items identified include: • Continue implementation of our decarbonization plan to meet our GHG goals. Consider accelerating decarbonization activities if appropriate. • Continue to drive energy reductions in our facilities through efficiency projects and phasing out less-efficient equipment. • Continue to implement RTC’s sustainable aviation technology roadmap and partner with industry organizations to achieve the aviation sector’s net zero carbon emissions by 2050 goal. • Closely track climate-related legislative and regulatory developments, technological advancements, and trends.

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	Climate related risks and opportunities related to our products/services (see C2.3a Risk 3, and C2.4a Opportunity 1) have influenced our product-related strategies. This is particularly evident in civil aviation where the industry has set an aggressive goal to achieve net-zero carbon emissions by 2050 and climate change is driving innovation. This has led RTC to focus on developing a technology roadmap to support achieving this target. Technology focus areas include: 1) Engine efficiency 2) Hybrid-electric propulsion 3) Hydrogen-fueled propulsion 4) Lighter-weight, energy-efficient systems and equipment 5) Advancing trajectory-based operations (TBO) 6) Airport and airline operational efficiencies 7) Alternative aviation fuel (AAF) and ensuring our engines are prepared to run on these Time horizon: Near, medium, & long-term Examples of substantial strategic decisions influenced by climate risks and opportunities: 1) In 2021, the company joined Air Transport Action Group’s (ATAG’s) “Fly Net-zero” commitment to achieve industrywide net-zero carbon emissions in civil aviation by 2050. We developed a technology roadmap and focus areas to support achievement of this target. 3) In 2021, Collins Aerospace acquired Dutch Thermoplastics Components (DTC), a leader in the development and fabrication of structural thermoplastic composite parts. With this acquisition, Collins Aerospace will expand the use of advanced thermoplastics to make aircraft lighter and more fuel-efficient. Thermoplastics composites offer higher impact resistance, unique process possibilities providing reductions in manufacturing cycle time and the need for fewer fasteners, in addition to what could be offered by traditional thermoset composites, such as strength and lighter weight. 3) In 2021, Collins Aerospace acquired FlightAware, a leading digital aviation company providing global flight tracking solutions, predictive technology, analytics and decision-making tools. These tools help our customers turn data into value, enabling them to increase efficiency and reduce costs while improving the sustainability of their operations.
Supply chain and/or value chain	Yes	Suppliers are essential to our business, and to our competitive advantage in the industry. Raytheon Technologies has encountered some supply chain disruptions, including logistic suppliers, due to extreme weather events, such as Hurricane Maria in Puerto Rico, forest fires in California, ice storms in Texas, and heat waves in southern States. Some weather events not only impact our facilities, but some of our suppliers. Certain weather events have led to delays in receiving parts and materials used at some of our manufacturing facilities, and in a small number of incidents resulted in having to obtain additional suppliers or maintain extra inventory to mitigate potential future disruptions. More attention is being paid to supplier readiness and resiliency. Raytheon Technologies has a robust supply chain management program. It seeks to ensure that there can be no single point failures in the supply chain by ensuring more than one supplier for all critical components that are isolated both geographically and geopolitically. Time horizon: Near-term Example of substantial strategic decisions influenced by climate risks: Raytheon Technologies published a new Corporate Policy on Business Resilience & Crisis Management in 2020. Risks to suppliers and logistical channels are one of the types of potential incidents that are explicitly identified in the policy that sites and Businesses must address in their Threat and Vulnerability Assessments and Continuity and Recovery Plans. Sites with a higher risk score and/or more supplier dependencies are required to have more robust assessments and recovery plans.
Investment in R&D	Yes	Climate-related risks and opportunities associated with transitioning to lower emission technologies (as reported in C2.3a Risk 3, and C2.4a Opportunity 1) have influenced the company’s R&D investment decisions. We are investing more in sustainable aviation technologies and will continue to in order to support our commitment to the industry’s net zero goal. The company has developed Technology Roadmaps for many different technology areas that have been identified as high priority for the company and our customers. The roadmaps are influencing our R&D investment decisions. In 2021, the company spent a total of \$7.2 billion in customer- and company-funded R&D. A significant amount of this funding goes toward sustainable technology and innovation for both civil aviation and defense sectors Time horizon: Near-term, medium-term, and long-term Examples of substantial strategic decisions influenced by climate risks and opportunities: 1) A \$163 million Canadian dollars Pratt & Whitney project supported by the governments of Canada and Quebec to develop a regional aircraft-scale hybrid-electric demonstrator, together with Collins and De Havilland Aircraft of Canada. 2) In 2019 Collins Aerospace announced a new center in France to develop enhancements for existing propellers, new systems for future turboprop, and disruptive technologies for next-generation aircraft, while also helping to reduce cycle times for customers through increased automation. The center optimizes propeller designs that improve aerodynamics and reduce weight, fuel consumption and noise. Collins Aerospace is investing \$18 million to develop “smart” actuation components for both commercial airplanes and helicopters in our center of excellence for actuation systems in France. This program is supported through a four-year R&D program grant from the French civil aviation authority (DGAC). 3) As an alternate to cryogenic hydrogen fuels, Raytheon Technologies Research Center (RTRC) is working on engine concepts that are powered by intermediate hydrogen fuels such as ammonia, which bring the benefits of hydrogen propulsion in a more transportable fuel. For fuel cell propulsion architectures, we are leveraging Collins Aerospace’s strong expertise in fuel cells for space and sea applications and RTRC’s background in fuel cell research to develop fuel cells for power generation.
Operations	Yes	Climate related risks and opportunities are influencing how we operate our facilities around the world. Our operations are influenced by the potential acute physical risks relating to climate change affecting our facilities, such as severe weather events - hurricanes, tornadoes, fires, mudslides, flooding, severe snow / ice storms. (See C2.3 a, Risk 2) This has led to enhanced Threat and Vulnerability Assessments that are conducted at sites and which address physical hazards, as well as Continuity and Recovery planning. This has also led to facility investments to enhance asset management to better survive a severe storm event (e.g., roof and window enhancements in hurricane-prone areas, installation of backup power generators). Second, climate change has influenced the company to continue to reduce energy use, increase energy efficiency, and increase the amount of renewable electricity we use in our operations in order to reduce energy costs and potential carbon prices and mitigate the impact of current or potential climate/energy regulation (See C2.4a Opportunity 3). Time horizon: Near-term Example of substantial strategic decisions influenced by climate risks and opportunities: In 2021, the Company announced a goal to reduce GHGs from our operations 10% by 2025 from 2019 levels. Due to the increased urgency to accelerate GHG emissions reductions, the company set a longer-term, more aggressive GHG goal to reduce emissions by 46% by 2030 from 2019 levels, which aligns with a 1.5 degree Celsius science-based pathway as identified in the Paris climate agreement. As an interim milestone we raised our 2025 GHG goal to 15% (market-based) to align with a “well below 2 degree Celsius” science-based pathway. Supporting these GHG goals, in 2022 the company established two additional 2025 goals to increase the percent of renewable electricity to 10% and to reduce energy consumption by 2.5% from 2019 levels.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures Acquisitions and divestments	<p>Revenues: Raytheon Technologies (RTC) is working on sustainable aviation technologies and processes to meet customer needs and demands while positioning itself to increase revenues (see 2.4 climate opportunities). This includes enhancements to the fuel efficiency of the GTF engine; hybrid electric propulsion systems; hydrogen-fueled propulsion; lighter-weight, energy-efficient systems and equipment; advancing trajectory-based operations; improving airport and airline operations; and working to prepare current and future engines to run on alternative aviation fuels. Time horizon: Near, medium, and long-term Case study of substantial strategic decision: Pratt & Whitney's GTF engine family was specifically designed to be significantly more fuel efficient than previous engine models, thereby reducing greenhouse gas emissions when using jet fuel. The engine reduces greenhouse gas emissions by 16% compared to the prior-generation best-in-class engines from 2015 levels. Since its release in 2016, it has saved operators 650 million gallons of fuel and avoided nearly 6.3 million metric tons of CO₂. Every 20 seconds, a Pratt & Whitney GTF engine powered aircraft flown by one of our 58 airline customers takes off. In December 2021, the company announced a newer model that will be available in 2024, the GTF Advantage™ engine, that will improve the reduction in fuel consumption and CO₂ emissions by an additional 1% to 17% versus the 2015 baseline. We are also ensuring that the GTF engine will be compatible with 100% Sustainable Aviation Fuel (SAF) to further reduce engine emissions. Capital expenditures: Potential climate related risks and opportunities are also influencing the company's current and planned capital expenditures in several different ways: 1) Capital expenditures are needed to support the transition to a sustainable aviation industry and deployment of new technologies, systems, and processes. This includes new facilities (see example below) and upgrades to existing facilities. 2) To continue to reduce the greenhouse gas emissions from our facilities, the company implements numerous energy reduction and energy efficiency projects each year, many of them needing capital expenditures. Each year EH&S, in coordination with Facilities, develops an EH&S plan that includes funding requirements, including capital projects to meet annual and long-term sustainability goals, including the GHG goal. 3) Capital expenditures are also required in some cases to make our facilities more resilient to severe storm events caused by climate change. Facilities that are located in higher risk areas may need to budget more capital expenditures as part of their Business Resilience and Crisis Management planning. The company's property insurer provides a service to assess physical hazard risks to facilities, especially those with high asset values, and makes recommendations for mitigation measures. Time horizon: Near-term and medium-term Case studies of substantial strategic decisions: 1) In 2020, Pratt & Whitney announced plans to invest at least \$650 million through 2027 in a world-class turbine airfoil production facility in Asheville, North Carolina. Turbine airfoils are a critical component across our engine portfolio and demand will increase significantly as the market recovers over the next several years. The facility will create airfoils for the fuel efficient GTF engine, among others, which is in significant demand and has more than 5,000 orders in backlog. The facility enables Pratt & Whitney to continue to modernize and transform its operations with cutting-edge technologies, while implementing best-in-class manufacturing technologies and processes exemplifying industry 4.0 manufacturing principles. This investment directly supports Pratt & Whitney's goal to transform its business and strengthen its position by implementing modern solutions to prepare for the future, while reducing structural costs to emerge from the pandemic stronger. Acquisitions: Potential climate related risks and opportunities are also influencing the company's strategy on business acquisitions in order to position it better for future growth and changing customer demands. Time horizon: Near-term and medium-term Case studies of substantial strategic decisions: 1) In 2021, Collins Aerospace acquired Dutch Thermoplastics Components (DTC), a leader in the development and fabrication of structural thermoplastic composite parts. With this acquisition, Collins Aerospace will expand the use of advanced thermoplastics to make aircraft lighter and more fuel-efficient. Thermoplastics composites offer higher impact resistance, unique process possibilities providing reductions in manufacturing cycle time and the need for fewer fasteners, in addition to what could be offered by traditional thermoset composites, such as strength and lighter weight. 2) In 2021, Collins Aerospace acquired FlightAware, a leading digital aviation company providing global flight tracking solutions, predictive technology, analytics and decision-making tools. These tools help our customers turn data into value, enabling them to increase efficiency and reduce costs while improving the sustainability of their operations.</p>

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number

Abs 1

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 3

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Category 6: Business travel

Base year

2019

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

607971

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

1160137

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

200195

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

1968303

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

100

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

100

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

2025

Targeted reduction from base year (%)

10

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

1771472.7

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

510420

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

941639

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

54907

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

1506966

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

234.383120891448

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

This is a company-wide GHG goal and covers scopes 1, 2, and scope 3 business travel (commercial air and employee car rentals). The 2025 goal period is between 2021 and 2025, and the first reporting year against this new goal was 2021. The baseline year for the goal would normally be the year prior, 2020, but it was decided not to use that year as the baseline due to the significant impacts of COVID on the company. Therefore, we selected calendar year 2019 as the baseline year. The goal covers 100% of the company's scope 1, 2, and scope 3 employee business travel. We are unable to provide the percent that scope 3 employee travel emissions represents as compared to the total scope 3 emissions from all categories since the company has not calculated a full inventory of its scope 3 emissions for either the baseline or reporting year. We consider our 10% GHG reduction goal to be a science-based goal aligned with a 2 degree C pathway (i.e., goal is better than the Science-Based Target Initiative's (SBTI's) minimum 1.23 % annual linear reduction, -6.2% vs 10% RTC goal), but have not submitted it to SBTI for approval. Since SBTI only approves goals that also address 67% of total scope 3 emissions, we are uncertain when we will be able to get our 2025 goal approved by SBTI, since the goal only includes scope 3 business travel. In early 2022 we revised our 2025 GHG goal to be more aggressive, to use Scope 2 market based accounting, and to limit it to Scope 1 and 2 emissions. The new goal, which we will report on in next year's CDP response, is to reduce GHG emissions 15% between 2019 and 2025. This reduction pace is aligned with the SBTI's "well below 2 degree Celsius" temperature pathway. In addition, the company announced in early 2022 a longer-term, aggressive GHG total that aligns with a 1.5 degree C science-based pathway as specified by SBTI. That goal is to reduce GHG emissions by 46% by 2030 from 2019 levels (scopes 1 and 2). The company also set two additional climate goals in 2022 to further drive the company's decarbonization efforts. The first is to increase renewable electricity to 10% of its total electricity usage by 2025. The second is to decrease energy consumption by 2.5% by 2025 from 2019 levels. These goals complement the company's existing goal to implement 11 energy/GHG best management practices at its major locations by 2025.

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

Raytheon Technologies' decarbonization plan to achieve the GHG target includes the following key elements: 1) Reduce energy consumption through energy-related reduction and efficiency projects. In 2021, the company implemented more than 100 energy projects and invested over \$12 million in those projects. 2) Conduct energy and GHG reduction assessments, surveys, gemba walks, and off hour treasure hunts, to identify opportunities to reduce consumption / emissions 3) Maintain a list of identified, on-going, and completed energy/GHG projects supporting the GHG reduction roadmap, and track implementation 4) Require all major sites to implement 11 energy/GHG best management practices. These are proven processes and initiatives that help reduce energy use and emissions. As of the end of 2021, we have implemented 47% of them. 5) Pursue renewable electricity projects both onsite and offsite. In 2021, RTC was involved in over 30 projects/contracts around the globe that generated 92,000 MWh of renewable electricity, which represented 3.5% of the company's total electricity use. 6) Maintain a cross-functional, cross business unit energy team ("The Conserving Raytheon Technologies Energy & Water" (CREW) team) to oversee the standardizing of policies and processes, assist in program implementation, and share best practices. 7) Track progress towards reducing GHG emissions to meet the company's reduction goals. Report results to management. 8) Beginning in 2021, the Board's Human Capital and Compensation Committee ("HCCC") incorporated into the Executive Annual Incentive Compensation Program a Corporate Responsibility Scorecard which includes qualitative objectives relating to Sustainability and Safety including climate-related objectives, among other metrics.

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

<Not Applicable>

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

No other climate-related targets

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	242	0
To be implemented*	39	3652
Implementation commenced*	60	10257
Implemented*	102	4930
Not to be implemented	44	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (All of the above types of initiatives (e.g., lighting, HVAC, building energy management systems, compressed air, insulation, solar))
--------------------------------	---

Estimated annual CO2e savings (metric tonnes CO2e)

4930

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

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1230770

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

11970000

Payback period

4-10 years

Estimated lifetime of the initiative

11-15 years

Comment

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Business unit and site managers develop dedicated budgets to meet their GHG reduction commitments under the formal Raytheon Technologies GHG reduction targets.
Internal finance mechanisms	Since the majority of Scope 1 and 2 GHG emissions are related to energy use, energy reduction investments drive our GHG reductions. The company examines the costs and benefits of energy and building projects and calculates a Return on Investment (ROI). This assists in selecting the most cost-effective projects.
Other (Greenhouse Gas Emission goals established and tracked)	Raytheon Technologies established formal GHG reduction targets for each business unit. Meeting the annual goals is one of the drivers behind Business unit and site emission reduction investments.
Other (R&D budgets and Technology Roadmaps)	In 2021, Raytheon Technologies spent \$7.2 billion in customer- and company-funded Research and Development. A significant amount of this funding went towards sustainable technology and innovation for both civil aviation and defense sectors. The company has developed Technology Roadmaps (see C2.4a Opportunity 1) for many different technology areas that have been identified as high priority for the company and our customers. Many relate to technologies that are critical in transitioning to a sustainable aviation industry, such as hybrid electric propulsion. These roadmaps identify key steps needed to advance technological knowledge in these areas. The roadmaps also help prioritize R&D investment. The company's R&D funding utilizes a defined, gated review process to determine which technologies get funding and at what level.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products or services

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

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

Type of product(s) or service(s)

Aviation	Geared Turbo Fan/ Ultra-High Bypass Ratio engine
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Description of product(s) or service(s)

Pratt & Whitney's Geared Turbofan (GTF) engine produces 16% lower CO2 emissions compared to prior-generation best-in-class engines, namely the IAE V2500 turbofans from 2015 levels. The GTF engine builds on a long track record of innovation and efficiency gains at Pratt & Whitney – a 70% improvement in fuel efficiency since we introduced the JT8D in the 1960s. This engine is the industry's best-in-class for single-aisle applications. Our engineers revolutionized the traditional jet engine architecture, adding a gear system in between the fan in the front and the turbine in the back, so that the fan and the turbine can spin at their optimal speeds for improved efficiency. This geared architecture enables reduction in the number of engine stages and airfoils, providing industry-leading efficiency, weight and environmental benefits to the engine. The GTF engine is the only geared propulsion system in service that is delivering industry-leading sustainability benefits. We are also ensuring that the GTF engine will be compatible with 100% SAF, to further reduce engine emissions.

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

Yes

Methodology used to calculate avoided emissions

Other, please specify (RTCs engineering calculations applicable to CO2 emission reductions associated with the use of the GTF engine. In addition, RTC utilized weight-emission reduction data provided in the "Destination 2050-A route to net zero European aviation" report.)

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

Use stage

Functional unit used

Operating an aircraft powered by a Pratt & Whitney GTF engine vs an aircraft powered by prior-generation best-in-class engines in 2015 (i.e., IAE V2500 turbofan engine).

Reference product/service or baseline scenario used

2015 best-in-class engines, i.e., IAE V2500 turbofan engine. This was used as a baseline reference since these engines were the best-in-class at the time that the GTF entered into service (in 2016).

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

Use stage

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

6300000

Explain your calculation of avoided emissions, including any assumptions

Since entering into service in 2016, this technology has saved operators 650 million gallons of fuel and avoided nearly 6.3 million metric tons of CO2. This was calculated by factoring in the increased GTF engine efficiency (which results in less fuel consumption) and applying it to an estimated number of miles flown by all the airlines that utilize the GTF engines.

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

Level of aggregation

Group of products or services

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

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

Type of product(s) or service(s)

Aviation	Other, please specify (Trajectory-based operation (TBO) products and services)
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Description of product(s) or service(s)

Another way to reduce fuel burn and emissions is through trajectory-based operations (TBO), a concept that proactively optimizes and manages flight trajectories and air traffic operations instead of continuously reacting to local conditions and traffic conflicts throughout the flight. Several solutions from Raytheon Technologies work together to unlock the ability to optimize and reliably execute optimized flight trajectories, thereby avoiding greenhouse gas emissions. Examples include: 1) The FAA's Wide Area Augmentation System (WAAS), which enhances the Global Positioning System (GPS) and provides precision navigation over North America, 2) The FAA's Standard Terminal Automation Replacement System (STARS), which is used by air traffic controllers to manage the airspace around the nation's busiest terminal areas, 3) Global air-ground data communications capabilities, such as Controller Pilot Data Link Communications (CPDLC), Automatic Dependent Surveillance-Contract (ADS-C) and ARINC Global Network, 4) Flight planning and dispatch, fuel analysis, weight and balance, and departure control systems that help with more efficient and predictable flight plans, including offerings from recent acquisition of FlightAware and 5) Avionics solutions such as the Multi-mode GPS receivers compatible with multiple global navigation satellite constellations and augmentation systems, as well as ground based radio navigation aids.

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

C5. Emissions methodology

C5.1

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

No

C5.1a

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

Row 1

Has there been a structural change?

No

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

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

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

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

C5.2

(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)

607971

Comment

2019 is our baseline year for the company's 2025 GHG goal.

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1160137

Comment

2019 is our baseline year for the company's 2025 goal. Our goal is location -based.

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1179207

Comment

2019 is our baseline year for the company's 2025 goal.

Scope 3 category 1: Purchased goods and services

Base year start

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

14614000

Comment

Listed above are the GHG emissions for 2020. This is the first year of full data for the new Raytheon Technologies Corporation. We do not have a scope 3 goal on this category.

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

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

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 6: Business travel

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

200195

Comment

2019 is the baseline year. This scope 3 category is included in our 2025 10% GHG reduction goal and baseline. In early 2022, Raytheon Technologies modified its 2025 goal and one of the changes was to eliminate the scope 3 category from the scope of the goal.

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

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

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Raytheon Technologies does not have a baseline year for this category.

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This category is not relevant to Raytheon Technologies.

C5.3

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

Australia - National Greenhouse and Energy Reporting Act

IEA CO2 Emissions from Fuel Combustion

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 Fugitive Emissions from Refrigeration, Air Conditioning, Fire Suppression, and Industrial Gases

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

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

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

US EPA Emissions & Generation Resource Integrated Database (eGRID)

Other, please specify (Canada's National Inventory Report electricity emissions factors; International Energy Agency World electricity emission factors)

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)
510420

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.2

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

Row 1

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

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

Comment

C6.3

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

Reporting year

Scope 2, location-based
941639

Scope 2, market-based (if applicable)
924191

Start date
<Not Applicable>

End date
<Not Applicable>

Comment

C6.4

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

No

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)
14614000

Emissions calculation methodology
Spend-based method

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

Please explain

Raytheon Technologies is a member of the International Aerospace Environment Group (IAEG), a 50-company member global aerospace related industry group. IAEG's mission is to employ the resources of members to address environmental issues of common interest. In 2019 an IAEG workgroup completed the development of a Scope 3 Purchased Goods and Services (PGS) and Capital Goods (CG) GHG calculation tool. The tool allows users to input either spend (total \$ spent) or materials acquired (Kg) in 64 categories of materials, goods and services, and then utilizes spend-based and material-based emission factors for each category to estimate the CO2e emissions resulting from the category. RTC used the spend method for calculating emissions from both PGS and CG. The data is based on 2020 spend, which is the most recent year with available information for all 4 Business Units.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

747527

Emissions calculation methodology

Spend-based method

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

0

Please explain

Raytheon Technologies is a member of the International Aerospace Environment Group (IAEG), a 50-company member global aerospace related industry group. IAEG's mission is to employ the resources of members to address environmental issues of common interest. In 2019 an IAEG workgroup completed the development of a Scope 3 Purchased Goods and Services (PGS) and Capital Goods (CG) GHG calculation tool. The tool allows users to input either spend (total \$ spent) or materials acquired (Kg) in 64 categories of materials, goods and services, and then utilizes spend-based and material-based emission factors for each category to estimate the CO2e emissions resulting from the category. RTC used the spend method for calculating emissions from both PGS and CG. The data is based on 2020 spend, which is the most recent year with available information for all 4 Business Units.

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

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

287531

Emissions calculation methodology

Fuel-based method

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

100

Please explain

GHGs from fuel and energy-related activities are based off electricity invoices, natural gas bills, fuel invoices, hot water and chilled water bills, and jet fuel bills. These bills/invoices all are provided to RTC from its energy and fuel suppliers, utility companies, and other partners. A portion of the fuel use calculations from our fleet vehicles is estimated and based on miles driven and the fuel efficiency of the vehicle. The fuel records are not consistently maintained in a centralized IT system to allow retrieval of the information. This estimated amount represents approximately 5% of the total GHGs in this emission source.

Upstream transportation and distribution

Evaluation status

Relevant, not yet calculated

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

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

12576

Emissions calculation methodology

Waste-type-specific method

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

100

Please explain

This figure represents emissions associated with hazardous and solid waste disposed via landfills and incineration. Data on waste quantity, composition, and disposal method are obtained from our waste management providers via invoices, bills, manifests, or other similar documents. Emissions from waste are calculated using methodologies and emission factors from the EPA's Waste Reduction Model (WARM), from EPA's Emissions Hub (April 2021). This model calculates emissions based on a life-cycle analysis, including emissions from the long-term decomposition of waste in a landfill or from upstream sources/sinks. GWPs are from the Intergovernmental Panel for Climate Change (IPCC) Fourth Assessment Report.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

54907

Emissions calculation methodology

Distance-based method

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

100

Please explain

All of the data we use for business air travel and employee rental cars is obtained from RTC's suppliers.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

471682

Emissions calculation methodology

Average data method
Distance-based method

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

19

Please explain

Emissions were calculated in accordance with The GHG Protocol Scope 3 Technical Guidance, Chapter 7, Employee Commuting. We collected employee commuting information from employee commuting surveys at 9 of our facilities, representing 19% of the overall emissions. The survey contained information on the percent of employees using various modes of transportation (e.g., car, light duty truck, transit, etc.) and the frequency of commuting, including telecommuting. To estimate the emissions from all the other company locations, key pieces of information were collected: Number of employees at each site; the percent of employees at each site that work onsite, work remotely, or work in a hybrid arrangement; and the average commute distances in each U.S. State from the U.S. census using mean commute time and assuming 1 minute to travel 1 mile (the average U.S. distance was applied to all other countries). The average percent mode of travel from the 9 surveys was used for the other sites. Estimated number of miles were calculated for each mode of transportation. Miles were converted to GHG emissions using EPA's Employee Commuting emission factors from the Emissions Hub (Table 10), and then summed.

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

All facilities and vehicles that RTC leases are already included in the scope 1 and 2 GHG emissions.

Downstream transportation and distribution

Evaluation status

Relevant, not yet calculated

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 calculated.

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

Raytheon Technologies sells end products, or products that are components of larger systems that are integrated (not processed) into a larger system with minimal processing requirements.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

8479676

Emissions calculation methodology

Methodology for direct use phase emissions, please specify (Adhered to the GHG Protocol's Scope 3 Technical Guidance for Category 11 Emissions.)

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

0

Please explain

Raytheon Technologies followed the methodology recommended by the GHG Protocol for emissions related to product use. The reporting scope covers commercial air transport engines and auxiliary power units (APUs), regional turboprop, helicopter turboshaft, business jet turbofan, and general aviation turboprop engines sold in 2021 for which emissions attributable to the engines have been allocated in line with Raytheon Technologies' share of the program. As an intermediate product, the emissions are allocated to the engine itself based on the engine mass ratio with respect to the aircraft. For each engine family, an average annual fuel consumption per engine was estimated based on historical aircraft utilization, e.g., hours and distances flown. Lifetime fuel consumption per engine is estimated by multiplying the annual fuel consumption by the engine family's expected life. Depending on the diversity of products, certain engine families have been defined to simplify the calculation, corresponding to the most popular types sold by Raytheon Technologies and therefore the most representative. This analysis assumes that the availability of sustainable aviation fuels (SAF) remains at the 2021 level. SAF availability and the associated emission reduction factor are anticipated to progressively increase over the lifetime of the engines. Assumptions and methods may be updated in the coming years depending on developments in the aerospace industry, or if a sector-specific methodology is defined.

End of life treatment of sold products

Evaluation status

Relevant, not yet calculated

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 calculated.

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

Raytheon Technologies does not have any assets leased to others that are not already included in the scope 1 and 2 GHG inventory.

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

The company does not operate any franchises.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

The company does not hold investments that would present a relevant impact to our Scope 3 emissions.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other upstream emissions.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

No other downstream emissions.

C6.7

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

No

C6.10

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

Intensity figure

22.55

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

1452058

Metric denominator

Other, please specify (Total revenue (\$ Millions))

Metric denominator: Unit total

64388

Scope 2 figure used

Location-based

% change from previous year

17

Direction of change

Decreased

Reason for change

The change was a 17% decrease. Scope 1 and 2 location-based GHG emissions were approximately 5.6% lower in 2021 than in 2020 due to emissions reduction initiatives. Raytheon Technologies revenues increased by approximately 14% from 2020 to 2021. Consequently, the intensity figure of GHG emissions (Scope 1 & 2) divided by revenues declined 17%.

Intensity figure

8.35

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

1452058

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

174000

Scope 2 figure used

Location-based

% change from previous year

1.8

Direction of change

Decreased

Reason for change

Scope 1 and 2 location-based GHG emissions were approximately 5.6% lower in 2021 than in 2020 due to emissions reduction initiatives. Full time equivalent (FTE) employees decreased by approximately 4%. Therefore, the intensity figure of GHGs per employee decreased 1.8%.

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	460567	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	184	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	1070	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	27611	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	20803	IPCC Fifth Assessment Report (AR5 – 100 year)
SF6	185	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	0	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	450517
United Kingdom of Great Britain and Northern Ireland	8592
Mexico	5347
China	1078
Poland	11775
Israel	604
Singapore	992
Canada	19276
Other, please specify (Rest of World)	12239

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)
Collins Aerospace	175472
Pratt & Whitney	229531
Raytheon Intelligence & Space	44386
Raytheon Missiles & Defense	47651
Corporate	13380

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)
United States of America	654377	632452
United Kingdom of Great Britain and Northern Ireland	12424	6794
Mexico	25039	25032
China	20163	19113
Poland	85511	97952
Israel	34436	31788
Singapore	42558	40672
Canada	15923	14732
Other, please specify (Rest of World)	51209	55655

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)
Collins Aerospace	390363	395649
Pratt & Whitney	267804	260506
Raytheon Intelligence & Space	139943	124084
Raytheon Missiles & Defense	135285	135708
Corporate	8244	8244

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	There was no significant additional onsite renewable energy consumption in 2021.
Other emissions reduction activities	4930	Decreased	0.3	Energy reduction and energy efficiency projects were implemented in 2021, thereby reducing GHGs. See Q 4.3 a and b for more details on the implemented projects. A total of 102 energy related projects were implemented relating to energy efficiency of our buildings. The projects include upgrades in the following: lighting, HVAC, compressed air, building energy management systems, and insulation. The resulting location-based emission reduction was 4,930 mt CO2e, divided by our total emissions in the previous year of 1,538,606 mt CO2e gives a 0.3% reduction (4,930/1,538,606) *100 = -0.3%.)
Divestment	0	No change	0	There were no significant divestments that affected the change in emissions.
Acquisitions	0	No change	0	There were no significant acquisitions that affected the change in emissions.
Mergers	0	No change	0	There were no mergers that affected the change in emissions.
Change in output	0	No change	0	There were no significant changes in output affecting GHG emissions.
Change in methodology	0	No change	0	No changes.
Change in boundary	0	No change	0	No change in boundary.
Change in physical operating conditions	0	No change	0	No change in physical operating conditions.
Unidentified	0	No change	0	None
Other	81618	Decreased	5.3	Several other factors contributed to the emissions reductions. 1) Electricity emissions factors continue to decline as utilities use more renewable resources and switch to lower-carbon fuels to generate their electricity. In the U.S. regions that the company has the largest electricity loads, emission factors decreased approximately 4.5% from 2020 levels. The estimated reductions are 51,560 mt. 2) The COVID 19 pandemic led to several factors that influenced the reduction in GHGs: a) Additional employees worked remotely, or came into the site less frequently, and therefore facility energy use decreased, b) Some office locations closed or activities reduced, and 3) With the slowdown of the economy, operations decreased and the number of shifts at certain sites were reduced, thereby reducing energy consumption. 3) In addition to the implemented energy projects / emission reduction projects described in Q4.3 a, sites implemented numerous energy and GHG best management practices and measures that reduced emissions, such as energy shut-it-off campaigns, improved operation and maintenance of equipment, changes in building automation settings and controls, and increased employee participation and awareness in the energy program. The resulting location-based emission reduction is estimated at 81,618 mt CO2e. Dividing this by our total emissions in the previous year of 1,538,606 mt CO2e results in a 5.3% reduction (81,618/1,538,606)*100 = -5.3%.

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	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)	LHV (lower heating value)	0	2255855	2255855
Consumption of purchased or acquired electricity	<Not Applicable>	99358	2454380	2553738
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	52080	52080
Consumption of purchased or acquired cooling	<Not Applicable>	0	27736	27736
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	8320	<Not Applicable>	8320
Total energy consumption	<Not Applicable>	107678	4790052	4897730

C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	No
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

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

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

Other biomass

Heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

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

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

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

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

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

LHV

Total fuel MWh consumed by the organization

934

MWh fuel consumed for self-generation of electricity

<Not Applicable>

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 #2 and #4

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

1921736

MWh fuel consumed for self-generation of electricity

<Not Applicable>

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

719386

Comment

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

Heating value

LHV

Total fuel MWh consumed by the organization

333185

MWh fuel consumed for self-generation of electricity

<Not Applicable>

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

LHV

Total fuel MWh consumed by the organization

2255855

MWh fuel consumed for self-generation of electricity

<Not Applicable>

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

719386

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	8320	8320	8320	8320
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

Small hydropower (<25 MW)

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

US-REC

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

19455

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

United States of America

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

Comment

Relates to 2 sites in Virginia.

Sourcing method

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

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Renewable product is sourced from many different renewable energy projects including solar, hydro, and wind)

Country/area of low-carbon energy consumption

United Kingdom of Great Britain and Northern Ireland

Tracking instrument used

GO

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

30122

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

United Kingdom of Great Britain and Northern Ireland

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

Comment

Relates to 7 sites in the UK.

Sourcing method

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

Energy carrier

Electricity

Low-carbon technology type

Wind

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

US-REC

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

14524

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

United States of America

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

Comment

Relates to 1 site in Indiana.

Sourcing method

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

Energy carrier

Electricity

Low-carbon technology type

Solar

Country/area of low-carbon energy consumption

United States of America

Tracking instrument used

US-REC

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

35257

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

United States of America

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

Comment

Relates to sites in Florida and Maine.

C8.2g

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

Country/area

United States of America

Consumption of electricity (MWh)

1800955

Consumption of heat, steam, and cooling (MWh)

32765

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

1833720

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Canada

Consumption of electricity (MWh)

181508

Consumption of heat, steam, and cooling (MWh)

0

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

181508

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Poland

Consumption of electricity (MWh)

110487

Consumption of heat, steam, and cooling (MWh)

39810

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

150297

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Singapore

Consumption of electricity (MWh)

111504

Consumption of heat, steam, and cooling (MWh)

0

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

111504

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Israel

Consumption of electricity (MWh)

64232

Consumption of heat, steam, and cooling (MWh)

0

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

64232

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Mexico

Consumption of electricity (MWh)

54930

Consumption of heat, steam, and cooling (MWh)

29

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

54959

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)

54294

Consumption of heat, steam, and cooling (MWh)

0

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

54294

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

China

Consumption of electricity (MWh)

30140

Consumption of heat, steam, and cooling (MWh)

2384

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

32524

Is this consumption excluded from your RE100 commitment?

<Not Applicable>

Country/area

Other, please specify (Rest of World)

Consumption of electricity (MWh)

154758

Consumption of heat, steam, and cooling (MWh)

4827

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

159585

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.

Description

Please select

Metric value

Metric numerator

Metric denominator (intensity metric only)

% change from previous year

Direction of change

<Not Applicable>

Please explain

No additional metrics

C10. Verification

C10.1

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

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

C10.1a

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

RTX 2021 GHG 2021 Verification Statement Limited.pdf

Page/ section reference

p. 1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

RTX 2021 GHG 2021 Verification Statement Limited.pdf

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Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

RTX 2021 GHG 2021 Verification Statement Limited.pdf

Page/ section reference

p. 1

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

RTX 2021 GHG 2021 Verification Statement Limited.pdf

Page/section reference

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Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.2

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

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

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

EU ETS

RGGI - ETS

C11.1b

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

EU ETS

% of Scope 1 emissions covered by the ETS

0

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

0

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Other, please specify (The company's owned or leased aircraft fleet.)

Comment

Raytheon Technologies' aircraft fleet traveling to the EU is subject to the EU's Emissions Trading System. In 2021, the number of flights to the EU were below the threshold for emissions.

RGGI - ETS

% of Scope 1 emissions covered by the ETS

14

% of Scope 2 emissions covered by the ETS

0

Period start date

January 1 2021

Period end date

December 31 2021

Allowances allocated

61290

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO₂e

71579

Verified Scope 2 emissions in metric tons CO₂e

0

Details of ownership

Facilities we own and operate

Comment

RGGI allowances associated with 1 Connecticut based co-generation facility.

C11.1d

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

Raytheon Technologies strategy for compliance with these systems is to 1) fully understand the requirements and monitor any changes in the regulatory schemes, 2) submit the necessary reporting by the required deadlines, 3) work with third party consultants where needed to assist in compliance, and 4) collect energy and GHG data quarterly from all of our sites, and conduct a GHG verification audit annually by a certified verifier, to ensure we can evaluate potential future regulatory schemes that regulate either GHG emissions or energy consumption.

Case study:

Raytheon Technologies' Flight Operations in the U.S. is responsible for complying with the EU Emissions Trading System relating to flights in and out of the EU by any of the company's corporate fleet of aircraft. They work with a third party to assist in tracking, quantifying, and determining any required fees that are needed to be paid to the EU to comply.

C11.2

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

Yes

C11.2a

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

Credit origination or credit purchase

Credit purchase

Project type

Methane avoidance

Project identification

Kornburi General Starch, Thailand (300044)

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

617

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

617

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Winchester, VA Landfill Gas (USA) (302091)

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

940

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

940

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

Credit origination or credit purchase

Credit purchase

Project type

Methane avoidance

Project identification

Blue Fire Bio Wastewater Treatment biogas utilization, Thailand (300147)

Verified to which standard

Gold Standard

Number of credits (metric tonnes CO2e)

7000

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

7000

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

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 (Raytheon Technologies maintains a supplier code of conduct that includes expectations that suppliers conserve natural resources, prevent pollution, and minimize emissions and energy consumption)

% of suppliers by number

100

% total procurement spend (direct and indirect)

100

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

100

Rationale for the coverage of your engagement

Coverage of this engagement is 100% of our suppliers. Our standard terms and conditions of purchase for all suppliers require them to comply with all applicable laws and regulations. In addition, they require suppliers to adopt and comply with a code of conduct or policy statement regarding business conduct, ethics, and compliance that satisfies, at a minimum, the principles set forth in our Supplier Code of Conduct. Among other things, the Supplier Code requires all suppliers to conduct operations in a manner that 1) Complies with all applicable environmental, health, and safety laws, regulations and directives, 2) Actively manages risk, 3) Conserves natural resources, 4) Prevents pollution, 5) Safeguards the environment, and 6) Minimizes waste, emissions and energy consumption. To cascade this impact throughout our supply chain, our Supplier Code requires each of our suppliers to, among other things, have management systems, tools and processes to ensure compliance with applicable laws and regulations and the requirements contained in the Supplier Code. To help achieve these outcomes, we actively engage with our suppliers. We provide onboarding training to new strategic suppliers and communicate with existing suppliers as needed.

Impact of engagement, including measures of success

Comment

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Climate change performance is featured in supplier awards scheme

% of suppliers by number

% total procurement spend (direct and indirect)

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

Rationale for the coverage of your engagement

Raytheon Technologies (RTC) utilizes a Supplier Health Assessment (SHA) as a tool to help assess our suppliers on many different aspects of their business, including sustainability issues, greenhouse gas emissions and energy reduction programs. This structured tool helps to determine the total business health of a supplier, in order to identify and measure risks, capabilities and process maturity in the supply base. The SHA is an online self-assessment tool that is used on new and existing suppliers including those identified for growth and for the various award programs. Once the supplier completes the assessment, RTC evaluates the assessment to confirm the results and develop actions plans as needed. The assessment process involves over 80 questions and takes considerable time to complete and to be reviewed by RTC, so suppliers are carefully selected and evaluated. The SHA questions are focused key categories that the company has identified. The sustainability questions are structured to identify the maturity level achieved by the supplier. The SHA also measures key criteria in the Raytheon Technologies' Performance+ program, which includes company's supplier award programs - both Platinum Awards and Premier Awards. The Platinum Award is awarded on an ongoing basis to suppliers that perform in the top percentile of the Raytheon Technologies supply base. The Premier Award is awarded annually to suppliers for excellence in one of four categories (Cost Competitiveness, Technology & Innovation, Business Management/Customer Service, and Collaboration).

Impact of engagement, including measures of success

We believe the SHA and the Performance+ Program are effective ways to communicate our values and our supplier expectations, as well as assessing supplier performance and identifying areas that need attention. A measure of success is the average scores of the SHA assessment questions. Aggregate scores are calculated for each supplier. Higher scores are an indicator that suppliers are enhancing their programs. We do not yet have trend data since this is a new questionnaire as a result of harmonizing legacy supplier questionnaires from Raytheon Technologies' former companies (United Technologies Corporation and Raytheon Company). Ultimately, success of these supplier engagements would be decreases in supplier GHG emissions. Other measures of success are increased supplier awareness of GHG emissions and climate change, and an increased number of companies setting GHG reduction targets.

Comment

C12.1b

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

Type of engagement & Details of engagement

Collaboration & innovation	Other, please specify (Collaboration, discussion, and joint R&D investment in sustainable aviation technologies)
----------------------------	--

% of customers by number

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

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

Raytheon Technologies actively engages with its commercial aviation customers to collaborate and innovate towards a more sustainable aviation industry. One of the forums Raytheon Technologies uses to accomplish this is the Air Transport Action Group (ATAG), an organization with approximately 40 members worldwide representing all sectors of the air transport industry. The organization provides an effective venue to discuss critical issues related to aviation's sustainability and seek coordinated solutions. Another forum is the International Air Transport Association (IATA). IATA's mission is to represent, lead, and serve the airline industry by working together to shape the future growth of a safe, secure and sustainable air transport industry that connects and enriches our world. Two of Raytheon Technologies' Businesses, Pratt & Whitney and Collins Aerospace are strategic partners of IATA. The company also engages with aviation customers in other forums. For example, Collins Aerospace is a Founding Member of the Governing Board of the Clean Aviation Joint Undertaking (JU), a public-private partnership launched in 2021 between the European Union (represented by the European Commission) and the European aviation sector (represented by the founding members and the associated members). Envisaged under the Horizon Europe research and innovation funding program, the Clean Aviation JU has the mission to develop disruptive new aircraft technologies towards the decarbonization of aviation by 2050. Another forum to engage with our customers is through the International Aerospace Environmental Group (IAEG), which is a non-profit organization of global aerospace companies created to collaborate on and share innovative environmental solutions for the industry. The group works to promote the development of voluntary consensus standards and provide accessible solutions for key environmental issues. Raytheon Technologies is a founding member and on the Board of Directors. Raytheon Technologies also engages with the U.S. Department of Defense, including the DoD Chief Sustainability Officer, to better understand the Department's strategic climate adaptation roadmap and initiatives, and how Raytheon Technologies can support achieving DoD goals in technology advancements and supply chain resiliency.

Impact of engagement, including measures of success

We measure the success of engagement with customers on climate issues in various ways. For example, attendance at ATAG's Global Sustainability Aviation Summit, issuance of various publications that advance sustainable aviation (e.g., ATAG's Waypoint 2050 report which identifies several pathways for the aviation industry to achieve its carbon reduction goals), and successful project demonstrations of new technologies. The ultimate measure of success is supporting our customers to help them achieve their climate goals such as the commercial aviation industry's milestones and net zero goal.

C12.2

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

No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

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

Row 1

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

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

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

No, 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

Raytheon Technologies' direct policy and trade association activities are centrally controlled by the company's Corporate Government Relations organization. They coordinate with affected Businesses and functional organizations, and therefore the activities reflect the company's overall climate change strategy. Government Relations adheres to formal policies and procedures in their outreach to legislators and regulators. For some industry-specific organizations (e.g., ATAG), Raytheon Technologies' Business units take a prominent role in the engagement activities. .

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

<Not Applicable>

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

<Not Applicable>

C12.3a

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

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

Other, please specify (Sustainable Aviation Fuel (SAF) blender's tax credit)

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

The Sustainable Skies Act, which would create a \$1.50-2.00/gallon blender's tax credit for SAFs that achieve a 50% or greater reduction in lifecycle greenhouse gas emissions compared to conventional petroleum-based jet fuels.

Policy, law, or regulation geographic coverage

National

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

United States of America

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

Support with no exceptions

Description of engagement with policy makers

Pratt & Whitney, along with key industry groups, has signed a letter of endorsement of the proposed introduced bill that would establish a blender's tax credit for sustainable aviation fuels (SAF), in an attempt to make SAF more financially feasible for airlines. As a "drop-in" solution fully compatible with existing aircraft and fueling infrastructure, SAF, which today provides for less than 1% of aviation's global fuel need, has a critical role in meeting our industry's emissions reduction goals. By deriving from sustainable feedstocks such as used cooking oil or municipal waste, SAFs avoid the carbon emissions associated with burning fossil fuels. The tax credit would help boost demand for SAF and stimulate necessary investments in production infrastructure.

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

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.3b

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

Trade association

Other, please specify (Air Transport Action Group (ATAG))

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 publicly promote their current position

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

The Air Transport Action Group (ATAG) is an aviation trade association that advocates for the adoption of policies that will enable global civil aviation operations to achieve net-zero carbon emissions by 2050, supported by accelerated efficiency measures, energy transition and innovation across the aviation sector and in partnership with governments around the world. Raytheon Technologies' Pratt & Whitney business unit is a participating sponsor of ATAG, holds a seat on its Board of Directors, and provides technical expertise to the group in the development of its positions.

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify (Aerospace Industries Association (AIA))

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)

In October 2021, the Aerospace Industries Association (AIA) announced a commitment for commercial aviation manufacturers to work with airline customers and governments around the world to achieve net-zero carbon emissions by 2050. As part of that commitment, AIA spearheaded a ground-breaking study to analyze the state of sustainable aviation technologies in the U.S. and identify the types of public policies and investments necessary to achieve this vision. The results of the study were recently published in a report entitled, "Horizon 2050: A Flight Plan for the Future of Sustainable Aviation." "Innovation is at the heart of what we do as an industry and what will enable a more sustainable aviation future. While strong progress has been made in the energy efficiency of aircraft, we have the opportunity now to make investments in next-generation technology that will propel the industry into a brighter, greener future. Committing to net-zero carbon emissions by 2050 isn't just a pledge to secure a more sustainable aviation ecosystem, it is a testament to the confidence we have in our industry's ability to innovate," said Eric Fanning, President and CEO of AIA. AIA promotes advances in three prominent focus areas to support sustainable aviation: the development of sustainable aviation fuel, hybrid-electric propulsion systems, and advanced aircraft technology and modernization. Raytheon Technologies holds a seat on its Board of Directors and Pratt & Whitney chairs the Environmental Committee and Technical Operations Council.

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

Trade association

Business Roundtable

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

Consistent

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

We are not attempting to influence their position

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

In 2020, the Business Roundtable (BRT) announced support for the goals of the Paris Climate Agreement and a suite of policies to help achieve those goals. The BRT believes corporations should lead by example, support sound public policies and drive the innovation needed to address climate change. To this end, it believes that the U.S. should adopt a more comprehensive, coordinated and market-based approach to reduce emissions. Further, the BRT asserts that this approach must be pursued in a manner that ensures environmental effectiveness while fostering innovation, maintaining U.S. competitiveness, maximizing compliance flexibility, and minimizing costs to business and society. The transition to a low-carbon future will require a significant evolution in the way businesses and consumers operate. Key principles to guide public policy: • Align policy goals and GHG emissions reduction targets with scientific evidence. • Increase global engagement, cooperation and accountability. • Leverage market-based solutions wherever possible. • Provide for adequate transition time and long-term regulatory certainty. • Preserve the competitiveness of U.S. businesses, including avoiding economic and emissions "leakage." • Minimize social and economic costs for those least able to bear them. • Support both public and private investment in low-carbon and GHG emissions reduction technologies along the full innovation pipeline. • Minimize administrative burdens and duplicative policies while maximizing compliance flexibility. • Ensure that U.S. policies account for international emissions reduction programs. • Advance climate resilience and adaptation. • Eliminate barriers to the deployment of emissions reduction technologies and low-carbon energy. BRT's philosophy is that international cooperation and diplomacy backed by a broadly supported U.S. policy will be the key to achieving the collective global action required to meet the scope of the challenge and position the U.S. economy for long-term success.

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

Describe the aim of your organization's funding

<Not Applicable>

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

Yes, we have evaluated, and it is aligned

C12.4

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

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2021 RTX ESG Report.pdf

Page/Section reference

p. 6 - Advancing our ESG capabilities; p. 32 - Advancing sustainable technology and innovation globally; p. 33 - On the path to decarbonize aviation; p. 34-46 - Our roadmap to 2050; p. 47-49 - Decarbonizing our operations; p. 50 - Reducing climate risks, improving resilience; p. 70-88 - Appendices.

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Other, please specify (Advancing sustainable technology and innovation to decarbonize aviation.)

Comment

C15. Biodiversity

C15.1

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

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

C15.2

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

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

C15.3

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

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

C15.4

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

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

C15.5

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

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

C15.6

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

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

C16. Signoff

C-FI

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

No additional information.

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	Senior Vice President, Operations, Supply Chain, Quality, EH&S	Other C-Suite Officer