C0. Introduction

C0.1

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

Turkish Aerospace (TUSAŞ – Türk Havacılık ve Uzay Sanayii A.Ş in Turkish and herein after called as Turkish Aerospace) is Türkiye's technology center for the development, modernization, manufacture, system integration and life-cycle support of the aviation and space industry systems.

Turkish Aerospace is an explorer company challenging the unknown to shape the future.

Being among the top hundred global players in aviation and space industry, Turkish Aerospace is organized under six strategic business centers depending on the projects, including:

Structural Group

Aircraft Group

Helicopter Group

Unmanned Aerial Vehicle (UAV) Systems Group

Space Systems Group,

National Combat Aircraft (NCA) Group

In addition, integrated logistics support is provided for all products designed/manufactured by Turkish Aerospace.

With approximately 14 billion TRY turnover in 2021, Turkish Aerospace continued to be at the top 100 aviation and space companies in the world. Located in Ankara, the production plant covers an area of 4 million square meters with an industrial facility of 650,000 square meters under its roof. The company has a modern aircraft facility furnished with high technology machinery and equipment that provide extensive manufacturing capabilities ranging from parts manufacturing to aircraft assembly, flight tests and delivery. Four new buildings-Turkish Fighter Engineering Building, the Composite Production Building, the Space Systems Engineering Center and Factory-Level Component Maintenance Repair Center that their construction works were started in 2021, were inaugurated in 2022.

As of 2021, Turkish Aerospace employs over 11424 workers, of whom 3809 are research and development staff, working in military and other research projects.

Turkish Aerospace collaborates with many prominent brands, organizations, and establishments from Boeing to Airbus, TRMOTOR to numerous universities.

The pandemic which was heavily influential for two last years, blocked activity in almost all fields around the world such as production, sales, services and aviation.

The company continued its production for global brands and its modernization programs, made number of deliveries, prepared aerial vehicles for their first flight.

In 2021 there was an increase in the national inventory as aerial vehicles, the development of many projects in the facilities as an aerospace base, certificate and awards. Turkish Aerospace was granted the "Supplier of the Year" award by Spirit, one of the world's prominent aerostructure manufacturers. "Supplier of The Year Award" in the Alliance Category was received from Boeing, for the quality of its products and its delivery performance. Turkish Aerospace took second place in the R&D 250, Companies with the Highest R&D Expenses in Türkiye. As Turkish Aerospace, in 2021 we made a total of 84 patent applications, 51 of which are national and 33 are international. We have completed the patent registration procedures of our 20 patent applications.

We are currently the first company among industrial establishments in Türkiye to receive the Basic Level Zero Waste Certificate issued by the Ministry of Environment, Urbanization and Climate Change. Waste Management and Green Flag League Projects, won the "Golden Award" in the Waste Management category at the Green World Awards, where 500 projects competed and the world's best environmental practices were selected. Turkish Aerospace was awarded with the title of "Green World Ambassador" in the international arena.

The company reached ninth place in the research "Most Favorite Companies" in 2021. It ranked third in the "Best Employer Brand Management" in Engineering and Production Industries" category and continues to be among the "Best Employer Brands" in Europe. For its internal communication efforts and employer brand, Turkish Aerospace won the silver award at the Corporate Engagement Awards. The company is the first Turkish brand to receive such an award.

Turkish Aerospace has ISO 14001:2015 Certificate since 2018 and received the ISO 50001:2018 EMS Certificate in 2019. The company, which started the process of gathering greenhouse gas emissions data in the reporting year, finalized the third party verification and was awarded with ISO 14064:2018 with zero non-compliance in May, 2022. Turkish Aerospace is the first defense company being certified from an accredited international third party. With the investments prioritizing energy saving, the company continue contributing to its sustainable clean energy policy.

C0.2

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

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

C0.3

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

Turkey

C0.4

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

USD

C0.5

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

Operational control

C-TO0.7/C-TS0.7

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

Aviation

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
No	<Not Applicable>

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	The CEO who is a member of the Board has delegated the Vice President of Strategy & Affiliates Management on Sustainability topics including climate related issues. The Sustainability Committee carries out all climate-related studies under the chairmanship of the vice president informing the CEO who supports the board members' decision making processes. The members of the Board who have oversight on the review and assessment of sustainability topics, including climate-related issues are responsible from the ESG performance of the Company. The board considers climate-related issues when reviewing and guiding the business strategy. There are Corporate Governance Committee, Early Detection and Management of Risk Committee (EDMR) , the Board of Directors Audit Committee, where climate-related risks & opportunities are reported to the Board To support the Executive Committee(EC) for environmental and climate-related issues the Sustainability Committee (SC) was established in 2021. Some members of the Executive Committee and other senior managers responsible from environmental topics are permanent members of the SC that meet quarterly to review the progress and take decisions on all matters including climate related environmental topics. In 2021, it was decided to start the CDP program covering decarbonisation strategy with the assessment of climate related risks and opportunities in the context TCFD recommendations. The ESG topics have been sharing quarterly with the CEO.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans 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>	The board considers climate-related issues when reviewing and guiding the whole business strategy, plans, risk management policies, budget plans as well as setting organizational performance objectives, monitoring implementation and performance, and overseeing major capital expenditures, acquisitions and divestitures, as scheduled. The Vice President of Strategy & Affiliates Management, leads the Sustainability Committee, briefs the Executive Committee (EC) about climate related implementation and performance. The CEO supports the Board of Directors to oversee corporate strategy and the risk management policy by considering government relations and corporate sustainability program with global climate related issues. Turkish Aerospace 's commitment to support the SDG 13 &SDG6 on climate actions is always in the concern of the Board. In 2021 the following decisions were carried out by the Board for addressing climate-related risks and opportunities: 1-The Vice President of Strategy & Affiliates Management has been assigned by the CEO to fulfill the sustainability management issues via "Sustainability Committee".(SC) The Sustainability and climate related metrics were determined and started to be monitored by Sustainability Monitoring Platform.The first Sustainability Report was published in May 2022. After the establishment of SC, achieving net zero GHG emissions across value chain by 2050 has been accelerated. The Board also made the decision to monitor and review the preparations of the transition action plan, by over-sighting all climate related topics. 2- To fulfill emission calculations for 2021 with a certification over ISO 14064:2018 version, and to start CDP reporting program for the purpose to ensure target setting which will lead the company to a more innovative & competitive business, the third party verification took place in May 2022. 3- The Environmental Management Chief Unit was renamed as the Environmental Management and Climate Change Unit which will carry out the coordination, reporting and monitoring processes of all climate-related issues. 4-The Environment Policy was revised and published as 'Environmental and Climate Change Policy' Water Policy was published for the first time. (Policies are attached in C.16) 5- Focus on new process competencies with "Smart is the New Green Approach" has been kicked-off.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	Having competence in different fields, is a sought-after feature as it supports decision-making processes. It is reasonable to have competence in material topics, such as energy and innovation in design, that has a great importance for aerospace business. Whole members are competent in different fields. Turkish Aerospace is equipped with the latest infrastructure, technology and know-how with the workers who are the explorers challenging the unknown to shape the future. The organization has one board member with competence on climate-related issues, the board member can fulfill any plans to address board-level competence in the future. As an electrical engineer he was actively involved in waste disposal by energy-saving methods, turning buildings and industrial facilities in ecologic and energy efficient green buildings, as well as the establishment of the infrastructure of charging station and other water management related topics Competency Management Competencies related to roles and competency details have been determined so that the knowledge level and competencies of the workers can be monitored throughout their careers within the framework of their expertise and developed by supporting them with related training. In 2021, evaluation of the competence development of the managers was executed and organization of coaching activities for the managers, base on new development topics were determined by HR department.	<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
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly

C1.2a

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

The CEO who is a member of the Board has delegated the Vice President of Strategy & Affiliates Management (S&AMVP) on sustainability issues, including climate related topics. The Sustainability Committee (SC) carries out all climate-related (carbon, water, biodiversity) studies under the chairmanship of the vice president informing the CEO who supports the board members' decision-making processes on related subjects. Strategic and climate related program management responsibility is assigned to following committees for the purpose to undertake communication based integrated management of risks & opportunities in the context of ESG.

Audit Committee is comprised of at least two independent Board members. It is the committee formed within the board of directors to oversee the operation and effectiveness of the company's accounting system, independent audit and internal control and internal audit system, and to offer suggestions to the board of directors. The committee assembles at least four times a year.

Internal Audit and Evaluation Board Presidency; It is the unit responsible for internal audit and evaluation activities in the company organization. It ensures the follow-up of enterprise risk management system aligned with Turkish Aerospace 's strategy & policy. It oversights the functioning and effectiveness of the risk management system processes. It reports directly to Audit Committee and Board.

Early Detection and Management of Risk Committee (EDMR), carries out studies for the early detection of risks that will endanger the existence, development and continuity of the company, implement the necessary measures regarding the identified risks, and manage the risks. It is comprised of two Board members. It is chaired by an independent Board member. It oversees the performance of the enterprise risk management system. Expertise support to the early detection of risk committee is provided by the Enterprise Development Manager under the S&AMVP, and the meetings are attended in case of need. All strategic projects are examined separately, all risks that may occur are identified and presented to the board of directors.

To achieve company vision and mission, a road-map was shaped around the following three main axes. These axes are product development to become a global player, income for sustainability including climate related business continuity, achievement of a subscribed business volume and satisfaction of the stakeholder expectations by corporate governance. Employee engagement and competencies lead to business excellence and productivity growth.

In line with company vision**, The SC** focuses on responsible consumption and production (SDG:12) by developing and implementing ESG strategies. Reducing the impacts of identified risks and seizing identified opportunities matters for the performance evaluation. In 2021, the ESG Report and climate related disclosure were reviewed by the full Board of Directors. S&AMVP is the delegated manager who drives and adapts climate decisions of the company. He is responsible for the development and execution of sustainability strategy, including internal advisory process, stakeholder engagement and disclosure. This responsibility includes producing and publishing Turkish Aerospace 's annual SR covering climate related data.

The SC meets quarterly and acts as a support and advisory body to oversee the implementation of sustainability strategy and discuss topics including climate change risks, opportunities and disclosure.

The activities are executed by the mixed work-groups of experts from different departments working on material projects. The work-groups are self-managed teams in which a diversity of expertise and experience is sought. They provide all guidance on their own expertise about sustainability and climate management issues by reporting to Vice President. Work-groups titles are: Corporate Governance (Risk, Process, Strategy), Environment and Energy (covering Energy Management Systems, CDP with related metrics) Supply Management/ Value Chain, Sustainable Products, R&D, Innovation, Financial Management, Customer Satisfaction and Communication, Digitization (knowledge management). Each group carries out the processes of management and follow-up of the targets, deals with the design of programs and projects for implementation.

In 2021, Environmental Management Department's name was changed as Environmental Management and Climate Change Unit (EM&CCU) which reports to Maintenance and Operation Manager. The Unit's main duty is to be the contact point on the basis of directorates, on environmental management system, and environmental risks with their improvement and follow-up. EM&CCU ensures to drive the calculation of carbon footprint value of the company, annually in compliance with ISO 14064. This unit works in close contact with Energy Working Group whose main duty is to ensure energy efficiency improvement, triggering emission mitigation efforts for entire company.

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	An effective performance management process is monitored by setting individual targets in order to maintain the performance progress of the employees by increasing their contribution to the business. In the reporting year, an interim review processes was fulfilled quarterly. In accordance with the corporate and strategic goals, employees were evaluated with the participation of their first and second managers, based on success criteria that were revised in the sustainability strategy. It is recently confirmed that climate related targets are embedded into executive remuneration system. The climate related targets are included in the senior management incentives. In 2021, evaluation of the competence development of the managers was executed and organization of coaching activities for the managers, based on the development topics were determined.

C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	Energy efficiency projects and emissions reduction objectives are under development. The annual CO2 reduction objective will form the CEO's and other Executive Committee member's remuneration percentage.
Energy manager	Monetary reward	Energy reduction project Energy reduction target Efficiency project Efficiency target	While energy performance is continuously improved, energy costs are reduced, stakeholders' awareness of energy efficiency is increased and long-term environmental and economic sustainability of activities are ensured. Performance assessments and decisions, based on emission reduction targets commenced to be reported to the executive level and factor into compensation through the HR performance system.
Environment/Sustainability manager	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Efficiency project Environmental criteria included in purchases Company performance against a climate-related sustainability index	Managers who are involved in environmental management, energy reduction project with savings, and CO2 emissions management, have sustainability targets related to CO2 emissions reductions. Energy and natural sources consumption reduction projects will constitute the emission reduction projects managed by Environment / Sustainability Manager. The KPI's are transformed into individual business targets. Performance assessments and decisions, based on emission reduction targets commenced to be reported to the executive level and factor into compensation through the HR performance system These objectives are reviewed every year and individual bonuses notably depend on this performance review
All employees	Monetary reward	Behavior change related indicator Company performance against a climate-related sustainability index	Various events are organized during the year; With the aim of reducing waste, increasing environmental awareness, Green Flag league which is a fun and competitive application was started on 05 June 2020, World Environment Day. Within the scope of the league, the assessment of the employees realizes 4 times a year according to certain scoring criteria. The departments which rank at the top three in scoring, are rewarded with an Environmental Achievement Certificate. Waste Management and Green Flag League Projects won the "Golden Award" in the Waste Management category at the Green World Awards where 500 projects competed and the world's best environmental practices were selected. Turkish Aerospace was awarded with the title of "Green World Ambassador" in the international arena.

C2. Risks and opportunities

C2.1

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

Yes

C2.1a

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

	From (years)	To (years)	Comment
Short-term	0	3	Risks that have an impact on current operations
Medium-term	3	5	Risks that could have impact on operations and business in the near term.
Long-term	5	9	Risks that could have impact on future operations and business in the long- term, requiring business strategy restructuring.

C2.1b

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

As per our Enterprise Risk Management Policy, we aim to contribute to corporate sustainability by proactively managing all kinds of opportunities and threats that we may encounter within the scope of the activities aiming to achieve our strategic goals. We define our risks in an integrated manner with our processes and create risk management strategies that are compliant with our strategic goals.

In our Enterprise Risk Management System there are 8 risk classes. Risk classes and responsible departments are:

· Enterprise Risks: *Enterprise Risk Management*

· Program Risks: *Program Management Team*

· Information Security Risks: *Security Working Group*

· Safety Risks: *Safety Management*

· Environmental Risks: *Environment and Climate Change Management*

· OHS Risks: *Occupational Health and Safety*

· Procurement Risks: *Related Procurement Dept.*

· Energy Risks: *Energy and Infrastructure Dept.*

Enterprise risks are categorized as Financial, Strategic/Compliance, Operational, Threat, Contract risks. Risks are scored by risk criticality levels. Risk criticality level is composed of risk impact value and likelihood value. In all risks, impact value and likelihood value is scored according to attached risk tables.

If annual impact value is greater than %1 of the target endorsement value, the impact value is considered as very high, as substantive financial impact.

If the risk is related to more than one strategic target from the Strategic Plan and it is assumed to be solved in more than one week, the impact value is considered as very high.

In order to evaluate effectiveness of risk management activities, Risk Maturity Levels are measured by Enterprise Development Management and results are reported to the related departments. Quality of the risks, risk treatment options, risk criticality levels, risk mitigation plans, number of risks are considered while measuring the Risk Maturity Level. In addition, in order to increase the awareness and the risk monitoring levels, every three months risks and risk details are reported to the responsible and relevant managers.

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
In Turkish Aerospace, climate related risk management is integrated into multi- disciplinary company-wide risk management process with a clear objective to ensure achieving our strategic goals and business continuity in compliance with law and regulations.
In Turkish Aerospace ; risk management activities are managed within the framework of Risk Management principles over 8 different risk classes within the scope of enterprise risk management policy.
Enterprise , program, procurement, information security, safety , occupational health and safety, environmental and energy risks are gathered under the module belonging to the relevant class in the Turkish Aerospace Risk Management System.
The process for identifying, assessing and responding to climate-related risks and opportunities could have a substantive financial or strategic impact applies to all value chain stages.
Enterprise risks are determined as a result of strategic targets, regulations, senior management directives and presentations, process analyses, performance indicators, audit reports, process owner interviews, monitoring of global developments, and literature research.
Including both threats and opportunities, they are reported to the system by their description and definitions. Risk-related discussions take place, risk critical levels are calculated, response method and responsible persons are determined, control plans are created, control and follow-up are started. The company-wide audit division evaluates and reports whether the activities are functioning in an effective way.
The ways to treat risks are managed in three categories: Acceptance: Accepting the existence of the risk but taking no action. Mitigation/Actualization: Taking action to prevent/actualize the risk. Transference: Transferring the responsibility to another company.
Turkish Aerospace determines significant risk as rated “very high". In Financial risks, impact value and likelihood value is scored according to tables shown in the procedure. If annual impact value is greater than %1 of the target endorsement value the impact value is considered as very high. If the risk is related to more than one strategic target from the Strategic Plan and it is assumed to be solved in more than one week, the impact value is considered as very high.
Early Detection of Risk Committee was established in 2015 and operating under the Board of Directors.
The purpose of the Committee is to identify the threats that may endanger the existence, development, and continuity of our Company or the opportunities that may positively affect the existence, development, and continuity of our Company at an early stage; to implement the necessary activities related to the identified threats and opportunities, and to carry out activities to manage the risks.
Other than detection of the risks, significant risks are reported to the Early Detection of Risk Committee at least twice a year and their assessments are achieved. All impacts are reported quarterly to the system.
In order to evaluate effectiveness of risk management activities, Risk Maturity Levels are measured by Enterprise Development Management and results are reported to the related departments.
Quality of the risks, risk treatment options, risk criticality levels, risk mitigation plans, number of risks are considered while measuring the Risk Maturity Level. In order to increase awareness and follow-up of risks, active risks are reported to the relevant managers every 3 months.
Climate related transitional and physical risks are categorized based on TCFD recommendations. In 2021 the Environmental Management and Climate Change Unit (EM&CCU) initiated the assessment of them, the information sharing and related studies have been realized with the collaboration of Energy Department, Risk Management Department and Sustainability Committee. Significant risks were reported to the Board of Directors after providing recommendations to the CEO.
The R&Os are identified, assessed and managed within the scope of 8 risk classes. explained in 2.1.b. All risks are classified by the risk assessment module as low, medium, high and very high according to their criticality levels. 193 environmental risks were identified in 2021. Acceptance methods were selected for 105 of them and control application methods were selected for 88 of them. Energy and environmental risk maturity levels were measured for the first time in 2021. A measurement instruction was published on this subject. Worldwide developments under the influence of the pandemic were examined in the context of aerospace and defense industry processes, and corporate base important risks were explained in the "Turkish Aerospace, 2021 Risk Agenda Report" with comments and measures taken.
With the formulation and the review of short-med & long-term management strategy, transitional risks such as emerging regulation risks including emission mitigation actions for 2021-2022 period, were presented to the EDMR Committee in 2021.
A case study of how the described process is applied to physical risks and/or opportunities;
Impacts due to significant extreme weather events are known through the IPCC AR5 Report. The negative impacts of this risk in the campus are assessed by EM&CCU within the leadership of maintenance manager.
Turkish Aerospace could be exposed to the risk of extreme heavy precipitation (rain, hail, snow) etc. resulting with the disruption or interruption of the activities. The equipment of the buildings could be affected, and dis-functioning may require additional maintenance and adaptation. The financial and strategic impact has been assessed. In the sustainability committee meetings the severity of the risk was discussed. New maintenance measures were taken.
A case study of transitional opportunities;
The customers willing to bring new generation de- carbonized products to the market may pose some compelling technological burden to aircraft manufacturers.
In the last five years, the company has invested US$700 million in technology and infrastructure. World’s fourth composite facility spanning 100 m2 was inaugurated in 2021.The risk in question has been assessed within the scope of the company’s business strategy with related departments.

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	The activities of Turkish Aerospace are monitored and coordinated with whole value chain to ensure that current regulation is compliant with climate related ones. All risks arising from climate-related current regulation are considered as part of Turkish Aerospace's overall risk assessment such as Monitoring, Reporting and Verification (MRV) of GHG Emissions Regulation can have significant impact on the company and other stakeholders. They are systematically considered in the company's risk identification, assessment and management system. It is integrated in the Enterprise Risk Management system (ERM). The impact can be substantial, and could include the rise of fines or additional direct or indirect costs. The information collection, assessment of current regulation risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM. Specific example In order to capture the volatile organic carbons released in the dyeing units in the production line, water washing systems, active carbon filters and other air filters have been started to be used. Water-based painting units have been replaced instead of solvent units
Emerging regulation	Relevant, always included	All risks arising from emerging climate regulations (e.g. ETS/PMR, EU Green Deal Taxonomy) are systematically considered in the company's risk identification, assessment and management system, and integrated in the ERM system. The resulting analysis shows that the impact can be substantial, and could include the rise of fines or additional direct or indirect costs. Company specific example: Türkiye is in the way of establishing a carbon emissions trading system (ETS) currently. Under the activities of this project the carbon prices can have significant impact on the company. Purchase of carbon credits to respond cap&trade base targets or carbon taxes for plant wise emissions are assessed in this context. In February 2022, the National Climate Council has completed its works which will form the infrastructure of short, medium and long-term strategies, actions, policies and legislation in line with Türkiye's 2053 Net Zero Emissions and Green Development target. Türkiye is expected to submit its updated nationally determined contributions at the 27th Conference of Parties (COP27) in 2022. The Climate Law, set for completion is regarded as another milestone with emission trading system which could accelerate clean transition. Turkish Aerospace makes the assessments base on this new emerging system. The information collection, assessment of emerging regulation risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM.
Technology	Relevant, always included	All risks arising from technology are systematically considered in the company's risk identification, assessment and management system, and integrated in the ERM system. The resulting analysis show that the impact can be substantial, such as failing to catch up with technological development and inability to apply effective technology. It represents a risk for the company as well as becoming less competitive because of delay in low carbon transition and these are evaluated as part of our risk assessment. The objective of Turkish Aerospace is to carry Türkiye to an internationally competitive level in aircraft technology. Turkish Aerospace has started preparations and investments for future technological product realizations. According to the "2020 EU Industrial R&D Investment Scoreboard" prepared by the European Commission and published in the first quarter of 2021, Turkish Aerospace was listed among 2500 companies. In 2020, the company spent 40%of its total turnover for R&D investments. The information collection, assessment of technology risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM. Although electric vehicles are an immature market segment, they aim to change the existing aviation industry by challenging the dominance of hydrocarbon propulsion. In the context of climate change, electric airplanes are likely to have a commercial advantage in the future, as emissions standards and carbon taxes will increase the operating cost of a hydrocarbon fleet. Studies for product development suitable for "sustainable aviation fuels" are in progress. The organization started the technological development by taking advantage of these opportunities.
Legal	Relevant, always included	Climate related disclosure requirements makes the company more sensitive to legal compliance. All risks arising from legal risk type are systematically considered in the company's risk identification, assessment and management system, and integrated in the ERM system. Turkish Aerospace never encountered this type of risk. External and internal reporting obligations are fulfilled and cross checked in the preparation phase by related departments. (Legal Affairs, Audit Dept.) In case of any realization; the impact for the company could be, loss of Nationwide Reputation. The information collection, assessment of legal risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO
Market	Relevant, always included	We closely monitor international and national studies in order to be as ready as possible for the transition to climate related customer expectations. Increasing performance by reducing aircraft weight has become a race in aviation activities. Turkish Aerospace aims to provide products and services which can contribute to reduction of GHG emissions of the customers during use phase. All risks arising from market risk type are systematically considered in the company's risk identification, assessment and management system for the short, med & long-term time horizon. The integration in the ERM system is in place. In order to determine the digital transformation strategy, the selection and determination of the quality of the products to be produced, the restructuring of the supply chain, market, technology and needs analysis, competition analysis and determination of the appropriate competition strategy, production and logistics support planning are carried out. New collaborations were signed with the customers in 2021. The new investment is for the design and production of thermoplastic composite parts which will be featured in the aerial vehicles of the future. The company undertook important roles in the National Space Program with IMECE, GOKTURK3 satellites, and unmanned aerial vehicles. The information collection, assessment of market risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM.
Reputation	Relevant, always included	All risks arising from reputation risk type are systematically considered in the company's risk identification, assessment and management system for the short, med & long-term time horizon. The integration in the ERM system is in place. Turkish Aerospace initiated a new project with the goal of creating a training catalog based on augmented reality (AR) and virtual reality (VR). The VR technology was used for Occupational Health and Safety training. The company is preparing to offer training on production and design operations with VR and AR support. Training related to climate change will also be included in this project . The information collection, assessment of reputation risks,their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM.
Acute physical	Relevant, always included	All risks arising from Acute Physical risk type are systematically considered in the company's risk identification, assessment and management system for the short, med & long term time horizon. The integration in the ERM system is in place. In Türkiye extreme weather events increase since 1997. According to obtained results based on IPCC AR5, RCP 4.5 the average annual temperature rising for 2016-2040 in Türkiye is expected to vary between 1°C - 2°C. (Ref: Climate Change Projections for Turkey: Three Models and Two Scenarios- Turkish State Meteorological Service.) It is reported that heavy rain/floods (26%), wind storm (25%), hail (12%), heat wave (11%), and lightning (4%) were recorded as the most observed disaster respectively in 2015. Extreme weather events may also affect certain regions of the country and cause interruptions in work continuity. In the reporting year some OHS training and response activities as maintenance have been initiated for this risk driver. The information collection, assessment of acute physical risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM.
Chronic physical	Relevant, always included	All risks arising from Chronic Physical risk type are systematically considered in the company's risk identification, assessment and management system for the short, med & long term time horizon. The integration in the ERM system is in place. In order to fulfill its organizational responsibilities against chronic climate change risks, Turkish Aerospace has been conducted risk analyzes between 2016 and 2021 to reduce internal carbon emissions and took measures against the identified risks. With the co-generation plant, the majority of the electricity need in the factory area is met from natural gas, reducing the amount of electricity with higher EF received from the grid. In addition, hot water and steam were produced by utilizing the waste heat in the facility. In this way, a decrease of approximately 45% was achieved in the coal consumption of the Heat Power Plant in 2021 compared to 2017. After the transition to ISO 14064:2018 GHG Management Systems, new improvements will continue taking into account new risk analyses. The information collection, assessment of chronic physical risks, their prioritization, action plans and their follow-up are fulfilled by related departments. Those are discussed in the Sustainability Committee and reported to the Board of Directors after providing recommendations to the CEO. The board oversight the issue via EDRM.

C2.3

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

Yes

C2.3a

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

Identifier
Risk 1

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

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased indirect (operating) costs

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

Company-specific description
European Union (EU) goal is to be climate neutral in 2050 and reduce greenhouse gas emissions at least 55% below 1990 levels by 2030. For this purpose, EU wants to ensure clean accessible energy, zero pollution, protect ecosystems and biodiversity and incentive new green economy business models. To achieve these specified targets, European Commission describes the regulation of carbon pricing in the entire economy.
European Commission proposes the regulation establishing a Carbon Border Adjustment Mechanism (CBAM) to reduce global greenhouse gas emissions and prevent carbon leakage that occurs when a company decides to move their production from a country with strict policies to a country that is less strict.
Carbon Border Adjustment Mechanism is a regulation to apply tax policy for the certain type of imported products to EU which have greenhouse gas emissions in their manufacture process. Carbon price is expected to be 30 € or 50 € per greenhouse emissions ton. Tax = Product emission (ton) * Carbon Price
Carbon Border Adjustment Mechanism constitutes regulatory-driven climate risk to Turkish Aerospace because of the increased pricing on imported goods. Company should be ready for CBAM compliance starting from 2023. This regulation is expected to have a medium and long-term effect to Turkish Aerospace since the scope of the regulation is expected to expand (expected to cover other goods, to cover indirect emissions of the production).

Time horizon
Medium-term

Likelihood
Very 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)
1112952

Potential financial impact figure – maximum (currency)
1854919.3

Explanation of financial impact figure
Turkish Aerospace's total Scope 1 carbon emission amount is calculated as 71.370,50 tons CO2 e. Scope 1 emissions are used in the calculations which represents the emissions generated directly in the factory.
In 2021 Turkish Aerospace's %46 of income generation is from export activities.(1€=1.13$)
It can be assumed that;
Carbon emission amount of exported products = 0.46*71.370,50 tons CO2 e which is 32.830,43 tons CO2e.
Potential financial impact can be calculated as:
32.830,43 tons CO2 e*30 € = 984,912.9 € (1,112,952 $) and
32.830,43 tons CO2e*50 € = 1,641,521.5 € (1,854,919.30 $)

Cost of response to risk
0

Description of response and explanation of cost calculation
Turkish Aerospace is making investments in clean energy by a smooth transition to low-carbon production processes as mentioned in Opportunity 1. By these investments, Turkish Aerospace aims to produce more environmental friendly products by decreasing its own emissions while mitigating the risk of Carbon Border Adjustment Mechanism. The cost of responding to this risk cannot be dis-aggregated from existing expenditures.

Comment

Identifier
Risk 2

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

Risk type & Primary climate-related risk driver

Emerging regulation	Mandates on and regulation of existing products and services

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

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

Company-specific description
Turkish Aerospace could be exposed to the risk of being excluded from the global supply chain due to carbon emission restrictions.
By 2050, Europe aims to become the world's first climate-neutral continent. Also, the aviation industry, including Airbus and Boeing, has committed to an industry-wide decarbonization movement that includes two key targets:
1. From 2020, aviation will compensate CO2 emissions (over the 2019 emissions baseline). This means that even though air travel is increasing, CO2 emissions will be mitigated.
2. The long-term climate goal of net-zero carbon emissions by 2050 supports the Paris Agreement's 1.5ºC goal.
As a TIER-1 supplier of Airbus and Boeing, and also being Türkiye's leading aerospace company, Turkish Aerospace has to work for these ambitious targets. Otherwise, we could experience difficulties in sustaining our position in global supply chain.

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
Due to confidentiality reasons we cannot disclose the financial impact figure.
All risks arising from emerging climate regulations (e.g. Net Zero Target, ETS/PMR, EU Green Deal Taxonomy) are systematically considered in the company's risk identification, assessment and management system, and integrated in the ERM system. The resulting analysis show that the impact can be substantial, and could also include the rise of fines or additional direct or indirect costs. Turkish Aerospace may become subject to lose its revenues from civil aviation contracted programs.

Cost of response to risk
1400000

Description of response and explanation of cost calculation
Türkiye is in the way of establishing a carbon emissions trading system (ETS) currently. Under the activities of this project the carbon prices can have significant impact on the company. Purchase of carbon credits to respond cap&trade base targets or carbon taxes for plant wise emissions are assessed in this context.
In February 2022, the National Climate Council has completed its works which will form the infrastructure of short and long-term strategies, actions, policies and legislation in line with Türkiye's 2053 Net Zero Emissions and Green Development target. Türkiye is expected to submit its updated nationally determined contributions at the 27th Conference of Parties (COP27) in 2022. A Climate Law, set for completion is regarded as another milestone with emission trading system which could accelerate clean transition. Turkish Aerospace makes the assessments base on this new emerging system.
Although electric vehicles are an immature market segment, they aim to change the existing aviation industry by challenging the dominance of hydrocarbon propulsion. In the context of climate change, electric airplanes are likely to have a commercial advantage in the future, as emissions standards and carbon taxes will increase the operating cost of a hydrocarbon fleet. Studies for product development suitable for "sustainable aviation fuels" are in progress.
New collaborations were signed with the customers in 2021.The new investment is for the design and production of thermoplastic composite parts which will be featured in the aerial vehicles of the future.
In the last five years, the company has invested US$700 million in technology and infrastructure. World's fourth composite facility spanning 100 m2 was inaugurated in 2021. The figure for 1 year average investment is 1,400,000 USD
The company undertook important roles in the National Space Program with IMECE, GOKTURK3 satellites, and unmanned aerial vehicles.

Comment
The information collection, assessment of emerging regulation risks, their prioritization, action plans and their follow-up are fulfilled by related departments.
The company continued to be the sole supplier of logistic support services for the Emergency Manned Reconnaissance Aircraft(EMRA) which is included in the Turkish Armed Forces.
Turkish Aerospace was granted the "Supplier of the Year" award by Spirit, one of the world's prominent aerospace manufacturers.
Boeing presented to Turkish Aerospace, Delivery and Quality Award. Turkish Aerospace became eligible to join "Boeing Premier Bidder Program

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Identifier
Risk 3

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

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)

Primary potential financial impact
Decreased revenues due to reduced production capacity

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

Company-specific description

IPCC report estimates that the frequency of heavy precipitation or the proportion of total rainfall from heavy rainfalls will increase in the 21st century over many areas of the globe. Percentage of extreme events recorded in Türkiye in 2021 were; wind storm 40%, heavy rain/flood 28%, hail 13%, heavy snow %7, lightning 5%, forest fire %3, frost 2%, landslide 2%, and avalanche, dust storm, fog, severe cold and drought less than 1% (Report: State of Turkey's Climate in 2021 - Turkish State Meteorological Service)
According to the Climate Projections for Türkiye prepared by Turkish State Meteorological Service, precipitation irregularities tend to increase in Türkiye. As stated in the RCP4.5 scenario, it is expected that the annual total precipitation anomaly in Türkiye will decrease between 3% and 6% in the period of 2016-2099. It is predicted that the average change in precipitation anomaly will be between 1% and 6% in the first half of the century, and between 5% and 6% in the second half of the century. Therefore, Turkish Aerospace activities may be impacted by sudden heavy precipitation and flood. Due to the interruptions in the supply chain and/or logistics, production and facility might be shut-off.
Considering these risks, insurance has been taken out.

Time horizon
Short-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
4846154

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

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

Explanation of financial impact figure
On average the costs associated with plant shutdowns (loss of revenue, additional maintenance) stand at approximately 4,846,154 million USD per day,2021 revenue 1.26 billion USD
It is assumed that all suppliers located in the region will be exposed to this risk for 1 day.
1.26 billion USD / 260 working days in 2021 = 4,846,154 USD

Cost of response to risk
16296.6

Description of response and explanation of cost calculation
The risks are managed through the insurance process.
The cost is related with insurance premium value, covering all climate related risk drivers (16,296.60 USD)

Comment

Identifier
Risk 4

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

Risk type & Primary climate-related risk driver

Acute physical	Drought

Primary potential financial impact
Increased indirect (operating) costs

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

Company-specific description
IPCC report AR5 indicates that climate change is likely to increase the frequency of meteorological droughts (less rainfall) in presently dry regions by the end of the 21st century. This is likely to increase the frequency of short hydrologic droughts (less surface water and groundwater) in this region.
Turkish Aerospace could be exposed to the risk of drought resulting with the disruption or interruption of the production.
Considering water stress situation and drought risk in the region where Turkish Aerospace is located, water efficiency projects such as Zero Liquid Discharge (ZLD) applications and water automation systems (SCADA & Digital Controllers) were considered in the facility investment plans. These applications were continued in 2021 and these are planned to be put in use within 2022-2023.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
4846154

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

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

Explanation of financial impact figure
The financial impact figure is calculated based on sales or delivery figure of the impacted day.
Calculation:(Revenues)1.26 billion USD/260 (working days in 2021) = 4,846,154 USD

Cost of response to risk
1881648

Description of response and explanation of cost calculation
Zero Liquid Discharge (ZLD) Applications enable to save about 85% of water and ensure zero liquid waste discharge. This project can be expressed as one of the best available techniques in the plants producing air crafts. With the approach and enthusiasm on saving our resources in the world, reusing and recycling options came to table in Turkish Aerospace.
To save fresh water, a water recovery unit, where entire amount of wastewater can be recycled and reused, was established. In the unit, there are different types of operated recovery systems such as active carbon, de-ionized water production, vacuumed evaporator and reverse osmosis. This ZLD applications will be operated in the chemical surface applications such as de-greasing, coppering and etching.
In 2021, two ZLD Projects were considered and total investment cost of these projects are 325.000 Euro + 570.000€ 1,409,449 USD (1€=1.13 $)
Considering water management, the foundation stone of water loss management and building a water balance can be seen as measurement and systematization of data that will represent the field. In order to accomplish this stage 251 smart meters are installed to the water distribution network of Turkish Aerospace. The gathered data from the meters are visualized in a SCADA system called XView. Total investment cost of these projects is 297.875 Euro. (336,599 USD)
In regards to water management, digital controllers are installed to cooling towers also. These controllers increase water efficiency by just-in-time chemical monitoring and control of cooling water which results in lower blow down activity. The blow down water saving for this project is approximately 40%. Also, by optimization with digital controllers chemical consumption to condition cooling water is expected to decrease by 20%. The controllers are implemented in 8 locations in the Turkish Aerospace facility. The gathered data is stored in the server of enVision website where it is monitored by the expert team of the System Assurance Center. The related alarms and problems for each controller are sent to the defined users by e-mail in a just-in-time manner. The investment cost of this project is 120.000 Euro (135,600 USD)
The total cost: 1,409,449+336,599+135,600=1,881,648 USD

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?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
The energy usage has an indicative role on climate change challenges. Therefore, Turkish Aerospace aims to produce and use the energy more efficiently to reduce the amount of greenhouse gasses and other air pollution emitted. Turkish Aerospace's vision is to reduce consumption on site by identifying energy efficiency opportunities, choosing energy efficient equipment and technologies.
The Solar Wall provides the system to preheat the cold and fresh air received from outside with solar energy by circulating the air in the channels inside. We save 1,085,664 kWh and 6,258,830 kWh of energy annually thanks to the 2 Solar Walls we have installed.
In addition, Turkish Aerospace implemented led lighting to building B 420 by saving 709.210 kWh per year. As a result of this saving, it will be taken into consideration to practice led lighting system in the buildings that will be built in the future.

Time horizon
Medium-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
16300821.95

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

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure
Solar wall can be thought of as an energy generating system. If it were not, heat would have to be produced using non-renewable energy as much as its capacity.
Total energy needs for 20 years :7344494 kWh/year*20=146,889,880 kWh/20 years
Total financial impact for 20 years: 16,300,821.95 USD

Cost to realize opportunity
395100

Strategy to realize opportunity and explanation of cost calculation
Solar wall installation cost is 395,100 USD
It was carried out within the scope of energy efficiency studies as per ISO 50001 Energy Management System and Energy Policy.

Comment

Identifier
Opp2

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

Opportunity type
Products and services

Primary climate-related opportunity driver
Development of new products or services through R&D and innovation

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

Company-specific description
As Turkish Aerospace, we aim to contribute to our company and our country's aviation ecosystem by designing models for R&D and innovation collaborations, knowing that we can achieve our targeted leadership in the aviation and defense industry with the best contributions of all our stakeholders and researchers. We continue our activities to manage internal and external relations, to create, construct and operate cooperation projects / programs / mechanisms / models in accordance with our R&D and innovation cooperation strategy in order to provide sustainable competitive advantage on a global scale, in line with our vision and goals.
As Turkish Aerospace we focus on sustainable innovation and support the creation of ideas and products that contribute to the ecological environment and innovative production. We consider R&D and innovation collaborations as a one-to-one tool that increases our competence and capacity in order to improve our corporate and environmental performance on the way to our sustainability goals. In this context, we implement young talent programs to train qualified human resources, and we provide maximum support to entrepreneurship and innovation activities in order to provide innovation.
Thanks to entrepreneurship program, it is aimed to shape the future of Turkish Aerospace with the contributions of employees and to cooperate with the start-up ecosystem that is developing day by day in Türkiye by focusing on open innovation activities in order to contribute to these studies. However, in order to be successful in this field, it is of great importance to determine some priority issues and focus on them, as in any other subjects. In order to create the innovation strategy of Turkish Aerospace that will provide this focus, entrepreneurship and open innovation strategy workshops are held under participation of our Chairman and / or General Manager, Executive Board Members, Directors and relevant Managers.
Emphasizing that the "sustainability" theme, which is among our innovation focus topics, should also be taken into account in both entrepreneurship and open innovation activities in every period, we determined the related theme as a horizontal focus topic for all aspects.
Turkish Aerospace HANGAR (entrepreneurship and open innovation) Program has been designed to give a chance to who have a project/idea about sustainability, in-house.
Turkish Aerospace took second place in the R&D 250 “Companies with the Highest R&D Expenses in Turkiye.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
High

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact figure
Due to the diversity of the activities, uncertainty of customer behavior and the confidentiality reasons, the financial impact cannot be quantified.
Developing technologies to reduce emissions generated in the use phase of the products is the material issue for Turkish Aerospace .
Climate and other market related emerging technologies, fuel, material and design pathways including innovative operational solutions for existing and future products are on the way of development.
Our customers are on the way to launch zero- emission aircraft on the market by 2035.
A new collaboration was signed with a customer including a new investment for the design and production of thermoplastic composite parts.

Cost to realize opportunity
45000

Strategy to realize opportunity and explanation of cost calculation
Although a cost item will be created within the scope of the opportunities and reward mechanisms to be created for the selected entrepreneurs, it is planned that these formations will generate more income and cause less consumption in short-term or mid-term.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
In the frame of the proposed “Green Stimulus” as part of the EU green deal, older generation aircraft will be replaced with more efficient latest generation ones for the purpose to reduce the GHG emissions of the fleet.
The first priority of the aviation industry is to ensure that vehicles perform longer with less energy. The materials consisting of various components in the aircraft must be the lightest materials with the highest durability. In addition to their superior performance properties, thermoplastic composites provide advantages due to their short production cycle, unlimited life, recycling and repairing ability. Turkish Aerospace follows new standards, regulations and policies with a Technology Road-map. Continuity is ensured by increasing R&D projects and investments.
The Company has included technologies that will contribute to reducing carbon emissions into the Technology Road-map and Acquisition Plan and continues its investments in this direction. The target technologies are discussed under three headings:
1. New Approaches to Aircraft Design 2.Transformation in Power and Energy Systems 3.Transformation in Production
From the point of the design of aircraft and aircraft components; technologies that focus on increasing fuel efficiency, reducing gas emission, carbon footprint and noise, and environment outputs are in the scope of the road map. For example, innovative air frames and structures, advanced laminar, innovative control systems, next generation optimized wing, advanced integrated structural, Eco-design (harmful chemicals free) and thermoplastic technologies are areas of technology that help increase efficiency and thus reduce carbon emissions.
Energy technologies which have minimum impacts on the environment with advantages such as low emissions and low noise will be the driving force for sustainable aviation. Alternative energy technologies such as electricity, hydrogen and solar energy technologies are included in the Road map as the long-term targets.
Turkish Aerospace has also taken action for the transformation of low-carbon production processes. The Company has made investments to develop digital transformation technologies that increase energy and resource efficiency. It carries out R&D studies on multiple technologies to ensure both short-term and long-term carbon emissions reductions for the aviation sector. R&D cooperation is considered critical to reduce investments and meet costumers’ needs.

Time horizon
Long-term

Likelihood
Very likely

Magnitude of impact
High

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact figure
These new technologies and sustainable solutions have the potential to increase the revenue of the company in the short-med and long-term. New products will provide a competitive advantage by making possible to access market earlier and increasing export volume. The possibility of attracting new generation component investments to our company is considered as an opportunity.
For instance, R&D studies are carried out in cooperation with the leading players of the sector in order to develop the ability to manufacture thermoplastic parts in accordance with aviation standards. Turkish Aerospace has put into service a new facility that will enable fully automated production by using thermoplastic materials that provide energy and cost savings as well as reducing the weight of aircraft.
Due to the diversity of these activities, uncertainty of customer supply, and the confidentiality, the financial impact cannot be quantified.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation
Owning competitive products and being the first to bring them to the world aviation ecosystem is one of the main axes of our strategy. Turkish Aerospace ranked 2nd in the ranking of the largest companies in terms of R&D expenditures (Turkishtime, 2020). Turkish Aerospace spends a very large proportion of its total turnover (close to 40 percent) on R&D investments. A significant portion of this budget is reserved for future technologies (as mentioned above) that will shape the global aviation industry. The precise budget allocated for future technologies cannot be given due to confidentiality. The progress of development activities is monitored with Turkish Aerospace’s Technology Roadmap and Acquisition Plan and evaluated yearly. The projects mentioned will continue for the next few years. During this period, investments will also continue on new projects and technologies. Turkish Aerospace aims to have the ability to produce a new generation environmentally friendly structural parts in a few years, to commercialize them and to use them in domestic products

Comment
With this kind of investments, Turkish Aerospace will be a candidate to develop and produce OEM certified products for future aircraft. These ongoing and planned activities will enable to produce environmentally friendly components in both domestic and commercial products with sustainable production methods in the future.
Technology Roadmap and Acquisition Plan is evaluated yearly, and acquisition goals of the relevant technologies, related academic studies and R&D projects are discussed holistically. investments in additive manufacturing can be given as another example of development studies that will serve environmental purposes. The achievements in additive manufacturing will provide advantages such as fuel savings and weight reduction in aircraft, as well as reduction in energy consumption due to the production process.
Ultrafan project, in which Turkish Aerospace is involved for the design and production of the nozzle part of nacelle is another promising achievement. The Ultrafan has a carbon titanium fan blade system and composite case that reduces its weight. With these features, it will contribute to less fuel consumption and lower emissions while providing efficient power.

Another example is the new generation winglet development project of Turkish Aerospace, which aims to reduce production time and cost, save energy and reduce weight with out-of-autoclave process. In this way, optimizing the production process will also contribute to the goals of achieving green energy.

C3. Business Strategy

C3.1

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

Row 1

Transition plan

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

Publicly available transition plan

<Not Applicable>

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

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

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

<Not Applicable>

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

Türkiye has accelerated the fight against climate with the ratification of the Paris Agreement in October 2021 when its net zero pledge by 2053 was confirmed. In February 2022, the National Climate Council has completed its works which will form the infrastructure of short, medium and long-term strategies, actions, policies and legislation in line with Türkiye's 2053 Net Zero Emissions and Green Development target. Türkiye is expected to submit its updated nationally determined contributions at the 27th Conference of Parties (COP27) in 2022.
A Climate Law, set for completion is regarded as another milestone with emissions trading system which could accelerate clean transition. National MRV Regulation is in force since 2018, and Türkiye will have carbon pricing system in two years. Possible carbon market policy options for Türkiye was studied in Partnership For Market Readiness phases (1&2).
The Environmental Management and Climate Change Unit's experts of Turkish Aerospace participated related workshops Turkish Aerospace believes that transitional plan must ensure the alignment with net-zero target.
Near-term and long-term SBT's and verifiable and quantifiable KPI's are in the examination phase. The actions taken by other companies in the sector is continuously monitored and evaluated in terms of their applicability to our company.
Our strategic target is to reduce our carbon emissions by 55% in 2030 compared to 2021 and to specify our actions within the vision of becoming carbon-neutral by 2050. Within 2 years, a road map will be prepared by discussing the activities to be carried out in the relevant departments in terms of improvements, and the realizations will be periodically audited. The Board will perform the oversight.

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

<Not Applicable>

C3.2

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

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

C3.2a

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios: IEA 2DS	Company-wide	<Not Applicable>	Climate-related scenarios are used to direct and inform business strategy decisions, especially for emission reduction pathways. The global market trends help Turkish Aerospace to assess transitional risks.The outcome of this work was shared with the board who oversight the performance of the system. While conducting our qualitative analysis, for transition scenario IEA 2DS, B2DS was applied to assess the risks. Base on World Energy Model following related macro -drivers were examined. Population, GDP assumption by region, fossil fuel prices by scenario, CO2 prices for electricity, industry and energy production. Customer global market forecasts on CO2 emissions were assessed, covering the sector. Various inputs to consider the 2017- 2050 time horizon were selected. The NDC of Türkiye which is going to be revised for COP27 was examined, and global trends were reassessed.These analysis directed us to fuel efficiency and emission reduction activities in asset level. In corporate level, Turkish Aerospace will continue to use the scenario analysis for a clear transition pathway to reach net zero emissions before 2053. (In February 2022, the National Climate Council has completed its works which will form the infrastructure of short, medium and long-term strategies, actions, policies and legislation in line with Türkiye's 2053 Net Zero Emissions and Green Development target.)
Physical climate scenarios: RCP 4.5	Company-wide	<Not Applicable>	Climate-related scenarios are used to direct and inform business strategy decisions, especially for emission reduction pathways. The global risk assessments help Turkish Aerospace to evaluate physical risks. The outcome of this work was shared with the board who oversight the performance of the system. While conducting our qualitative analysis, for physical climate scenario, we applied climate change scenario analysis compliant with the requirements of the SBT Initiative (SBTi), RCP 4.5 representing the IPCCs beyond 2 degrees Celsius scenario. Various inputs to consider the 2017–2050-time horizon was selected. The NDC of Türkiye which is going to be revised for COP27 was examined., and global events were reassessed. This analysis directed us to fuel efficiency and emission reduction activities in asset level. In corporate level, Turkish Aerospace will continue to use the scenario analysis to reach net zero emissions before 2053. (In February 2022, the National Climate Council has completed its works which will form the infrastructure of short, medium and long-term strategies, actions, policies and legislation in line with Türkiye's 2053 Net Zero Emissions and Green Development target.)

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

The problem definition was carried out by engagement and dialogue, detailed strategic conversation was carried out. Knowledge gaining about scenarios and their interactions with company environment was completed.
The assumptions, biases and changing mental models was interpreted to help the company's decision-making. Executive-level support was carried out by the president of Sustainability Committee. The communication with other departments and EDRM was fulfilled.
Assessment of external environment was completed by the identification of past trends. Current climate state with company's current climate risks was fulfilled.
Some physical and transitional questions:
What past climate-related patterns, trends, events, or variables have significantly affected the company? How and why did these factors exert influence on the company?
What are some other potential touch-points, both physical and transition, where climate-related issues affect the company and its environment (supply chains, customers, operations)? What effects could there be on infrastructure, business continuity, people?
What possible future developments need to be probed? What are the significant changes in customer preferences, markets, societies, policies, legal frameworks, and technological innovations? What are the key uncertainties and driving forces to shape future performance? What variables are needed to support decision-making? Which technological trends could play a key role in 2030 and 2050.(e.g., sustainable aviation fuel, light materials, renewable energy, carbon capture and storage, electrification etc.)?
We use IPCC (The RCP2.6 scenario represents the 2015 Paris Climate Agreement for a 1.5 °C stabilization) to understand the stringency of 1.5°C compared to beyond 2°C, RCP4.5 scenario and International Energy Agency (IEA 2DS, B2DS) scenarios, which provide broader context, and better frame for the focal questions used in R&O assessments.
Beside corporate assessments, energy intensive and critical business units were studied first. The expansion of scenario analysis will be carried out in the next two years.
The time horizon over which the focal question(s) are considered was chosen by taking into consideration IPCC and Paris Agreement time-frames and also corporate capital planning and investment horizons, the useful life of major company assets All of them are aligned with chosen scenarios.
While evaluating the climate related risks of Turkish Aerospace's for 2022-2030, the Strategy and Affiliates Vice President stated that, aviation industry's OEM companies that contribute to the climate balance and sustainability may not want to deal with companies that cannot keep up with climate change decarbonization projects. This issue was addressed in the plan as a threat. Risks and opportunities continue to be evaluated throughout the year within the scope of sustainability committee studies, risk management and strategic plan review and revision studies."

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

Transition R&O Results: Light and energy efficient product design has a priority in all R&D financial planning.
The strategy to customer expectations is resilient. Contracts and business deals with customers are already done.
In the last five years, the company has invested US$700 million in technology and infrastructure. World's fourth composite facility spanning 100 m2 was inaugurated in 2021.
The company continued to be the sole supplier of logistic support services for the Emergency Manned Reconnaissance Aircraft (EMRA) which is included in the Turkish Armed Forces.
Turkish Aerospace was granted the "Supplier of the Year" award by Spirit, one of the world's prominent aerospace manufacturers.
Boeing presented to Turkish Aerospace , Delivery and Quality award.
Turkish Aerospace became eligible to join "Boeing Premier Bidder Program".
Physical Risks Results:
Turkish Aerospace have been conducting IPCC based risk analyses between 2016 and 2021 to reduce internal carbon emissions and took measures against the identified risks.
1-With the co-generation plant, the majority of the electricity need in the factory area is met from natural gas, reducing the amount of electricity with higher emission. In addition, hot water and steam were produced by utilizing the waste heat in the facility. In this way, a decrease of approximately 45% was achieved in the coal consumption of the Heat Power Plant in 2021 compared to 2017.
2-The SPPs will start to be operate with 5,000 kWh hourly capacity in 2024 and this capacity will be increased gradually per year. The projected SPP operating capacity and electricity consumption is given below. The predicted hourly electricity consumption for 2030 is 21,477 kWh. According to the projections for 2030, %55 of the electricity demand will be met by SPPs and the remaining %45 part will be supplied as Green Electricity.
2024: 5,000 kWh (%31,68 of demand)
2025: 7,000 kWh (%40,92 of demand)
2026: 9,408 kWh (%55 of demand)
2027: 9,896 kWh (%55 of demand)
2028: 10,578 kWh (%55 of demand)
2029: 11,219 kWh (%55 of demand)
2030: 11,812 kWh (%55 of demand)
3-For the purpose to increase company-wide water efficiency by digital control and monitoring of water, an investment of 472,000 $ was realized. Digital control system called 3D TRASAR which is used for light industrial cooling water applications are implemented in order to optimize chemical dosing in cooling towers and eliminate manual operations.
4- "Water Automation System" as Innovation Projects for Water Efficiency.
In order to accomplish, water loss management and building a water balance as measurement and systematization of data, 251 smart meters are installed to the water distribution network of Turkish Aerospace. The gathered data from the meters are visualized in a SCADA system called XView. Measurements and monitoring of 80 buildings, including production and employee housing area, are instantly visible through this incorporated system.

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	In the frame of the proposed "Green Stimulus" as part of the EU green deal, older generation air crafts will be replaced with more efficient latest generation ones for the purpose to reduce the GHG emissions of the fleet. The priority of the aviation industry is to ensure that vehicles perform longer with less energy. The materials consisting of various components in the aircraft must be the lightest materials with the highest durability. In addition to their superior performance properties, thermoplastic composites provide advantages due to their short production cycle, unlimited life, recyclable and repairable ability. Turkish Aerospace follows new standards, regulations and policies with a technology road-map. Continuity is ensured by increasing R&D projects and investments. Having recorded prominent developments in many fields from production to R&D investment, Turkish Aerospace earned new capabilities and took steps to build new facilities and infrastructure, which broke new ground in Türkiye, in 2021. In the last five years, the company has invested US$700 million in technology and infrastructure. World's fourth composite facility spanning 100 m2 was inaugurated in 2021. The company continued to be the sole supplier of logistic support services for the Emergency Manned Reconnaissance Aircraft (EMRA) which is included in the Turkish Armed Forces. Turkish Aerospace was granted the "Supplier of the Year" award by Spirit, one of the world's prominent aerospace manufacturers. Boeing presented to Turkish Aerospace, Delivery and Quality award. Turkish Aerospace became eligible to join "Boeing Premier Bidder Program".
Supply chain and/or value chain	Yes	The risks originating from supplier companies can create both threats and opportunities for Turkish Aerospace. In the risk management studies carried out, it is aimed to prevent possible threats and seize opportunities. In the event that contracts become unmanageable due to reasons such as supplier-induced long downtime, export license issues, indefinite delays, climate-related downtime or losses; It is ensured that solutions such as termination of the contract are kept on the agenda, and that a new contract is prepared in parallel with an alternative supplier, if necessary. The company also has important activities under environmental and energy issues in order to reduce the risk of climate change affecting value chain In 2022, supplier selection criteria related to climate and environment will be renewed.
Investment in R&D	Yes	Developing technologies, to reduce emissions generated in the use phase of the products is the material issue for Turkish Aerospace. Emerging technologies, fuel, material and design pathways including innovative operational solutions for existing and future products are on the way of development. As an example, one of our customers is on the way of to launch zero- emission aircraft on the market by 2035. In the last five years, Turkish Aerospace has invested US$700 million in technology and infrastructure. World's fourth composite facility spanning 100 m2 was inaugurated in 2021. A new collaboration was signed with a customer including a new investment for the design and production of thermoplastic composite parts. Turkish Aerospace took second place in the R&D 250 "Companies with the Highest R&D Expenses in Türkiye.
Operations	Yes	Reducing emissions generated from operational activities is always in the concern of the company. Turkish Aerospace has been conducting risk analyses between 2016 and 2021 to reduce internal carbon emissions and took measures against the identified risks. With the co-generation plant, the majority of the electricity need in the factory area is met from natural gas, reducing the amount of electricity with higher EF, received from the grid. In addition, hot water and steam were produced by utilizing the waste heat in the facility. In this way, a decrease of approximately 45% was achieved in the coal consumption of the Heat Power Plant in 2021 compared to 2017. After the transition to ISO 14064:2018 GHG Management Systems, new improvements will continue by taking into account new risk analyses.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Access to capital	The identified risks and opportunities have influenced the financial statement and it has been incorporated into the financial planning process. In the long-term the climate strategy will create value by developing the business model. In Turkish Aerospace, assessing and responding market opportunities will positively affect the revenue. Consequently production costs will be budgeted in the planning phase. R&D expenses over a longer time horizon and insurance costs are budgeted for the time being. All the elements have been influenced by current R&Os which are oversight by the board with the support of the relevant committees. Climate-related issues will have an influence on our indirect cost strategy in the long-term. To meet CO2 reduction criteria, indirect costs such as production and engineering wages, product development, and testing costs will increase. Digitization and developing innovative applications for decarbonation took active role in all over the field of direct and indirect operations costs. The long term plan is updated by on a yearly basis revision of capital strategy while short term budgeting enables the financial processing. With the awareness that climate related issues and water security are on the same line, the following study was carried out at Turkish Aerospace: Use Water Network Measurement and SCADA System Installation works are carried out in the factory and lodging area. Measurements and monitoring of a total of 80 buildings, including production buildings and lodgings, can be viewed instantly on the system. In this way, water consumption amounts will be evaluated on a building basis, and a “water consumption map” will be created by revealing which processes need improvement in order to reduce water consumption and use water resources effectively. With the established SCADA system, consumption data can be seen daily, weekly and monthly. For each meter; location, working status and daily, monthly and annual graphics are included in the system. With the software, in which many processes in the field of waste management related to the environment are transferred to the digital environment, significant savings will be achieved in the detailed follow-up of time, labor and emissions. With the software, operations such as waste shipment, waste transportation requests, new Hazardous Waste Point (TAN) requests, zero waste entries, waste container requests and environmental targets can be entered. The module will be made available on Turkish Aerospace’s Portal. The investment in establishing a sustainable system for the calculation of greenhouse gas emissions and corporate carbon footprint in accordance with the ISO 14064:2018 standard has also started. Budget allocations are made. Major climate related events affecting production are not frequent, even so, given the unpredictability and potential impact on company financials.Turkish Aerospace continually evaluates risk mitigation strategies.

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

2021

Target coverage

Company-wide

Scope(s)

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Base year

2021

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

<Not Applicable>

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

23194.82

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

<Not Applicable>

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

23194.82

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

<Not Applicable>

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

100

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

<Not Applicable>

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

100

Target year
2030

Targeted reduction from base year (%)
100

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

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
23194.82

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
23194.82

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

Target status in reporting year
New

Is this a science-based target?
No, but we are reporting another target that is science-based

Target ambition
<Not Applicable>

Please explain target coverage and identify any exclusions
The target covers total scope 2 emissions with no exclusion.
The Solar Power Plants (SPP) will start to operate in 2024 with approximately 5,000 kWh (hourly average) capacity.
As of 2021, Turkish Aerospace's average hourly electricity demand was about 10,861 kWh.
In addition, considering new investment and buildings, the electricity demand forecast is considered about 21,447 kWh for 2030. By 2030, it is aimed to meet the electricity demand from SPPs (%55) and green electricity (%45)

Plan for achieving target, and progress made to the end of the reporting year
The SPPs will start to be operate with 5,000 kWh hourly capacity in 2024 and this capacity will be increased gradually per annum. The projected SPP operating capacity and electricity consumption is given below. The predicted hourly electricity consumption for 2030 is 21,477 kWh. According to the projections for 2030, %55 of the electricity demand will be met by SPPs and the remaining %45 part will be supplied as Green Electricity.
2024: 5,000 kWh (%31,68 of demand)
2025: 7,000 kWh (%40,92 of demand)
2026: 9,408 kWh (%55 of demand)
2027: 9,896 kWh (%55 of demand)
2028: 10,578 kWh (%55 of demand)
2029: 11,219 kWh (%55 of demand)
2030: 11,812 kWh (%55 of demand)

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

C4.2

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

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs1

Target year for achieving net zero
2050

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

Please explain target coverage and identify any exclusions
Linked target as abs1
Total base year emissions covered by target in all selected scopes (S2) is 23,194.82 ton CO2-e in 2021.
By 2030, it is aimed to provide 100 % of electricity grid consumption from SPPs.
In 2030 the scope 2 emissions will be zero.
Other targets will be developed and planned as near-term investments for the neutralization in 2050

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Yes

Planned milestones and/or near-term investments for neutralization at target year
Other emission reduction targets will be developed in 2 years in the course of developing our road map for the neutralization in 2050. Our strategic target is to reduce our carbon emissions by 55% in 2030 compared to 2021 and to specify our actions within the vision of becoming carbon-neutral by 2050
Related projects to be implemented;
*Awareness activities on energy use practices
* Transition from conventional vehicles to EVs
*Energy Efficient Design criteria setting in new buildings
*Building insulation works
*Solar Power Plant installations in the open areas of the company
*Maintenance, repair, and revision works on heating & cooling, ventilation, pressure air, vacuum, aspirators, steam humidifiers, process coolers, treatment devices, transformers, UPS and generators etc.
* Renovation on control systems
*Substitution of cooling gases and extinguishers
* Operation, maintenance, and repair of facilities' technology infrastructure
*LED-equipped fixtures, local lighting techniques

Planned actions to mitigate emissions beyond your value chain (optional)
The expectations from our suppliers is to comply with all laws and regulations and to manage their business in accordance to the requirements and targets set up for Environmental Management Systems including emission measurements, waste management and water consumption. The response rate and the performance rate are the main indicators of this success. We need to ensure business continuity in the context of climate related topics aligned with Paris Agreement Requirements throughout our company's commitments. This engagement will allow our tier 1 suppliers to ameliorate their own performance as well as cascade their own suppliers.
The company will take into account energy efficiency at the procurement stage, with the integration and minimization of logistics activities, emphasis on environmentally friendly technologies in the selection of machinery / equipment.

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	9	719
To be implemented*	0	0
Implementation commenced*	4	216
Implemented*	6	623
Not to be implemented	3	95

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	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
49

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
6214

Investment required (unit currency – as specified in C0.4)
17280

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Building lighting revision B10 (Harness)
Replacement of 360 400 W halogen type lighting fixtures with 20 W,2 LED type

---

Initiative category & Initiative type

Energy efficiency in buildings	Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)
20.36

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2962

Investment required (unit currency – as specified in C0.4)
2308

Payback period
<1 year

Estimated lifetime of the initiative
6-10 years

Comment
Leaks detected with the Fluke II 900 air leak detection equipment have been fixed

---

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
1.17

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
195

Investment required (unit currency – as specified in C0.4)
1154

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
C502 temper furnace discharge cart construction and thus shortening the usage time of the furnace

---

Initiative category & Initiative type

Energy efficiency in buildings	Motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)
130

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
17845

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

Payback period
<1 year

Estimated lifetime of the initiative
Ongoing

Comment
Energy savings were achieved by shutting down 7 clean room air handling units during the holidays.

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
167.36

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
22822

Investment required (unit currency – as specified in C0.4)
58050

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Replacing 234 400 W halogen type lighting fixtures with 20W,2 LED type

---

Initiative category & Initiative type

Energy efficiency in buildings	Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
254.88

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
32223

Investment required (unit currency – as specified in C0.4)
69231

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Replacing 480 400 W halogen type lighting fixtures with 20 W,2 LED type

---

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Turkish Aerospace will drive investment in, energy, water, waste and VOCs for all activities from buildings and manufacturing processes. It supports and enables deployment of smaller and larger projects, including energy efficiency projects, with short and long-term time horizons. In 2022 Turkish Aerospace will invest in energy efficiency for following buildings: Assembly Buildings, Test and Engineering Buildings, Manufacturing Building, Warehouse, Cafeteria, Technical Building, Office Buildings, Paint Shops,Heat Plant .
Dedicated budget for low-carbon product R&D	Substitution of existing products with lower emission options is aligned with the Research and Development activities. There is an increased demand for new low carbon technologies, materials, products and services
Compliance with regulatory requirements/standards	Legal harmonization studies and legal product investments works on EU Green Deal products that reflect new GHG reduction opportunities to our country are studied to drive investment.
Internal incentives/recognition programs	For each project within the scope of VAP (Energy Efficiency Projects) 30% of the project amount will be paid to Turkish Aerospace by the related Ministry as an incentive.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Product or service

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

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

Type of product(s) or service(s)

Aviation	Other, please specify

Description of product(s) or service(s)

Turkish Aerospace has proven the value it attaches to society and environment with its AKSUNGUR product. Completed in a short period of 18 months and included in the National inventory, AKSUNGUR joined the firefighting missions by undertaking the task of air surveillance during the 2021-forest fires in the country. Serving as a great aid in the firefighting efforts, the unmanned aerial vehicle remained in the air for 60 hours, played a role in saving 3 people from a fire- observation tower.
Emergency Manned Reconnaissance Aircraft which is included in the inventory of Turkish Armed Forces is actively partaking in search and rescue, operates in emergencies such as earthquakes and floods.
Four, CL-215 amphibious firefighting air crafts, whose maintenance needs were met in 2021, with the support of Turkish Aerospace to the Ministry of Agriculture and Forestry, started to be used in areas where fires broke out in 2022.

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?
Yes

C5.2

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

Scope 1

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
71370.5

Comment
Scope 1 emissions include; stationary combustion, mobile combustion and fugitive emissions.
Stationary combustion consists of the use of natural gas and lignite for heating and diesel fuel burned in generators.
Within the scope of mobile combustion, diesel and gasoline fuels consumed by road and airline vehicles are taken into account.
Fugitive emissions originate from refrigerant gas and fire extinguishing systems.

Scope 2 (location-based)

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
23194.82

Comment
Scope 2 emissions cover the electricity purchased from National Interconnected System.

Scope 2 (market-based)

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
Turkish Aerospace consumes electricity purchased from the grid. Therefore, we don't have any Scope 2 market-based emissions.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
115629.59

Comment
Emissions from purchased materials and services have been calculated

Scope 3 category 2: Capital goods

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
Indirect emissions from capital goods are not classified as significant based on the materiality assessment.

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

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
As a result of the materiality assessment for indirect emissions, it was determined that this category is not relevant.

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
28515.19

Comment
Emissions from the transport of upstream materials have been calculated. (Includes road, air and sea transportation.)

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
469.23

Comment
Waste water, domestic, organic, hazardous etc. Emissions related to waste disposal have been calculated

Scope 3 category 6: Business travel

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
1061.53

Comment
Indirect emissions from business travel by road, air, sea and rail have been calculated.

Scope 3 category 7: Employee commuting

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
1722.28

Comment
Employee commuting to and from work is done by road, shuttle and ring vehicles.

Scope 3 category 8: Upstream leased assets

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA, We have no leased assets.

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
19938286.39

Comment
Downstream transportation and distribution emissions include road, air and sea transportation

Scope 3 category 10: Processing of sold products

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

Scope 3 category 11: Use of sold products

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
4631930.43

Comment
Emissions originating from the fuel burned during the use phase of manufactured aircraft have been calculated.

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

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
1170.17

Comment
Emissions due to post-use recovery of the product as metal scrap or waste recycling have been calculated.

Scope 3 category 13: Downstream leased assets

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

Scope 3 category 14: Franchises

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

Scope 3 category 15: Investments

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

Scope 3: Other (upstream)

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

Scope 3: Other (downstream)

Base year start
January 1 2021

Base year end
December 31 2021

Base year emissions (metric tons CO2e)
0

Comment
NA

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Other, please specify (Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2021 TURKISH ELECTRICITY TRANSMISSION CORPORATION/ Electricity Production-Transmission Statistics for year 2018, 2019, 2020)

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)
71370.5

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Scope 1 emissions include stationary combustion, mobile combustion and leakage (loss/leakage) emissions.
Calculation has been made by taking into account diesel, natural gas, coal and aviation fuels

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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment
Turkish Aerospace consumes electricity purchased from the grid-National Network
In addition, the electricity produced by using natural gas in the Co- generation system is also consumed within the facility.

C6.3

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

Reporting year

Scope 2, location-based
23194.82

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
Includes emissions from electricity purchased from the grid.

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)
115629.59

Emissions calculation methodology
Average data method

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

Please explain
In the relevant category, emissions originating from domestically and internationally purchased products, services purchased, and water use emissions are calculated.

Capital goods

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
Indirect emissions from capital goods are not classified as significant based on the materiality assessment.

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

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
As a result of the materiality assessment for indirect emissions, it was determined that this category is not relevant.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
28515.19

Emissions calculation methodology
Distance-based method

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

Please explain
To calculate upstream product transportation and distribution we used shipping weight and distance data provided by our logistics division based on fiscal year 2021 shipment data.
Emissions were calculated using Defra GHG Conversion Factors for Company Reporting, using a kg CO2e per tonne.km emission factor for an average-laden HGV. All calculations are completed in accordance with ISO 14064-1:2018 and verified in accordance with ISO 14064-3:2019 standards

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
469.23

Emissions calculation methodology
Waste-type-specific method

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

Please explain
The 2021 Waste Declaration data has been taken into account.
Emissions were calculated using DEFRA Greenhouse Gas Reporting: Conversion Factors 2021. All calculations are completed in accordance with ISO 14064-1:2018 and verified in accordance with ISO 14064-3:2019 standards.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1061.53

Emissions calculation methodology
Distance-based method

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

Please explain
Indirect GHG emissions from business travel include GHG emissions of international and domestic travel by road, railway, and airways. Emissions were calculated using DEFRA Greenhouse Gas Reporting: Conversion Factors 2021. All calculations are completed in accordance with ISO 14064-1:2018 and verified in accordance with ISO 14064-3:2019 standards.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1722.28

Emissions calculation methodology
Distance-based method

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

Please explain
Calculated by considering the number of shuttle trips and average km for the year 2021 running to and from work.
Emissions were calculated using DEFRA Greenhouse Gas Reporting: Conversion Factors 2021. All calculations are completed in accordance with ISO 14064-1:2018 and verified in accordance with ISO 14064-3:2019 standards.

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
NA.We have no leased assets.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
19938286.39

Emissions calculation methodology
Distance-based method

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

Please explain
Downstream transportation and distribution emissions include road, air and sea transportation
Emissions were calculated using DEFRA Greenhouse Gas Reporting: Conversion Factors 2021. All calculations are completed in accordance with ISO 14064-1:2018 and verified in accordance with ISO 14064-3:2019 standards.

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
As a result of the materiality assessment for indirect emissions, it was determined that this category is not relevant.

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
4631930.43

Emissions calculation methodology
Fuel-based method

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

Please explain
Emissions originating from the fuel burned during the use phase of manufactured aircraft have been calculated.
Fuel based calculation was done.

End of life treatment of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1170.17

Emissions calculation methodology
Hybrid method

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

Please explain
It is calculated by considering the recovery/recycling of metal wastes after product use.

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
As a result of the materiality assessment for indirect emissions, it was determined that this category is not relevant.

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
We do not have any franchises, so this category is not relevant to our organization

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
New factory investments will be accounted in Scope 1&2 emissions.
So, GHG emissions of factory investments are not relevant for 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
There are no additional sub-emission sources for the reporting year.

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
There are no additional sub-emission sources for the reporting year.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

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

Intensity figure
0.0000750518

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
94565.32

Metric denominator
unit total revenue

Metric denominator: Unit total
1260000000

Scope 2 figure used
Location-based

% change from previous year
0

Direction of change
No change

Reason for change
This is the first year of the calculations.

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	69115.48	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	52.32	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	116.02	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	2086.67	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)
Turkey	71370.5

C7.3

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

By facility
By activity

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Kahramankazan	71370.493	40.081491	32.588543

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Natural gas consumed in co-generation	37256.231
Natural gas consumed in the heat plant	20862.512
Natural gas consumed in facilities	937.231
Diesel consumption in the generator	58.838
Use of lignite for heating	4686.1
Gasoline consumption for on road vehicles	589.67
Diesel oil consumption for on road vehicles	2563.809
Aviation gasoline	151.138
Aviation-jet kerosene	2177.511
Fugitive emissions from air conditioning systems &chillers	1345.418
Fugitive emissions from fire extinguishers	741.255

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

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

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	71370.5	<Not Applicable>	It includes stationary combustion, mobile combustion and fugitive emissions. Stationary combustion consists of the use of natural gas and lignite for heating and diesel fuel burned in generators. Within the scope of mobile combustion, diesel and gasoline fuels consumed by road and airline vehicles are taken into account. Fugitive emissions originate from refrigerant gas and fire extinguishing systems.
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Turkey	23194.82	

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)
Manufacturing and Facility Buildings	17659.33	
Storage and Hangar Buildings	512.49	
Other Buildings (Offices, Test Centers, Laboratories, Cafeterias etc.)	5023	

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

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

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	23194.82		Location based emissions originating from electrical energy purchased from the grid have been calculated. Scope 2 market-based activity is not relevant for Turkish Aerospace.
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C-TO7.8

(C-TO7.8) Provide primary intensity metrics that are appropriate to your indirect emissions in Scope 3 Category 11: Use of sold products from transport.

Activity
Aviation

Emissions intensity figure

Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO2e
4631930.43

Metric denominator
p.km

Metric denominator: Unit total

% change from previous year
0

Vehicle unit sales in reporting year

Vehicle lifetime in years
10

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

Load factor
0

Please explain the changes, and relevant standards/methodologies used
Calculated emissions originate from the fuel consumption of the aircraft produced during their lifetime.
The average lifetime of the produced vehicles is calculated by taking into account related hours.
The total amount of fuel burned was obtained by multiplying the average hourly fuel consumption.
By multiplying this activity data with the relevant factors, t CO2e emission data is obtained.

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?
This is our first year of reporting, so we cannot compare to last year

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?
More than 5% but less than or equal to 10%

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	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	357707.18	357707.18
Consumption of purchased or acquired electricity	<Not Applicable>	0	48521.57	48521.57
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	0	406228.75	406228.75

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

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

Comment
We have not consumed any fuels within this category in the reporting year.

Other biomass

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

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

Comment
We have not consumed any fuels within this category in the reporting year.

Other renewable fuels (e.g. renewable hydrogen)

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

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

Comment
We have not consumed any fuels within this category in the reporting year.

Coal

Heating value
LHV

Total fuel MWh consumed by the organization
12802.19

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
6774.17

MWh fuel consumed for self-generation of steam
6028.01

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

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

Comment
There is lignite use for heating purposes.

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
20949.94

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
20949.94

MWh fuel consumed for self-generation of steam
0

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

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

Comment
Liquid fuels (diesel, gasoline, aviation gas and jet kerosene) are considered within the scope of mobile combustion. It has on-road vehicle and LTO mode usage. There is diesel consumption in the generators.

Gas

Heating value
LHV

Total fuel MWh consumed by the organization
323955.05

MWh fuel consumed for self-generation of electricity
112412.25

MWh fuel consumed for self-generation of heat
155292.84

MWh fuel consumed for self-generation of steam
56249.96

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

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

Comment
Natural gas is consumed for electricity generation and heating purposes.

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

Heating value
LHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

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

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

Comment
We have not consumed any fuels within this category in the reporting year.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
357707.18

MWh fuel consumed for self-generation of electricity
112412.25

MWh fuel consumed for self-generation of heat
183016.95

MWh fuel consumed for self-generation of steam
62277.97

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

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

Comment
The figure covers total fuel consumed by Turkish Aerospace.

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	75765	75765	0	0
Heat	151224.4	151224.4	0	0
Steam	77170.17	77170.17	0	0
Cooling	0	0	0	0

C8.2g

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

Country/area
Turkey

Consumption of electricity (MWh)
124286.57

Consumption of heat, steam, and cooling (MWh)
228394.57

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

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

C-TO8.5

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

Activity
Aviation

Metric figure

Metric numerator
Other, please specify (Due to confidentiality reason the data cannot be declared.)

Metric denominator
Production: Other, please specify (Due to confidentiality reason the data cannot be declared.)

Metric numerator: Unit total

Metric denominator: Unit total

% change from previous year
0

Please explain
Due to confidentiality reason the data cannot be declared.

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
677.9

Metric numerator
kg waste

Metric denominator (intensity metric only)
FTE

% change from previous year
18

Direction of change
Decreased

Please explain
Zero waste management system is carried out effectively.
• 99% of waste is recovered.
• Awareness activities and waste reduction practices are emphasized.
•Materials that are needed for reuse are re-evaluated in different production areas.
•Waste management practices are followed through integrated environmental audits carried out 4 times a year.
•Awareness of waste management practices is increased with the Green Flag League

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Description
Other, please specify (Waste water)

Metric value
29.02

Metric numerator
cubic meter waste water

Metric denominator (intensity metric only)
FTE

% change from previous year
2

Direction of change
Decreased

Please explain
• Project design studies are continuing to recover approximately 85% of wastewater originating from machinery, workbenches and equipment with on-site recycling systems (Zero Liquid Discharge)-ZLD systems.

Description
Other, please specify (Water usage)

Metric value
84.86

Metric numerator
cubic meter of water used

Metric denominator (intensity metric only)
FTE

% change from previous year
8

Direction of change
Decreased

Please explain
• Appropriate armatures and equipment are selected in new building projects, rainwater collection, treatment and usage options are investigated, and wastewater recovery applications (grey-water systems) are evaluated.
• With the water measurement and automation project to be completed in 2022, water consumption in the production areas and lodging areas will be measured on a building-based daily basis with the SCADA system.
• Dry type industrial systems and equipment that do not require water consumption are preferred in production.
• Dry landscape practices are carried out to reduce the amount of water used in irrigation.
• The wastewater treated in the domestic wastewater treatment plant is used as irrigation water and a significant amount of water is recovered.

C-TO9.3/C-TS9.3

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

Activity
Aviation

Metric
Production

Technology
Other, please specify (Due to confidentiality reason, it is not declared)

Metric figure

Metric unit
Other, please specify (Due to confidentiality reason, it is not declared)

Explanation
Due to confidentiality reason the data cannot be declared.
We closely monitor international and national studies in order to be as ready as possible for the transition to climate related customer expectations. Increasing performance by reducing aircraft weight has become a race in aviation activities.
Turkish Aerospace aims to provide products and services which can contribute to reduction of GHG emissions of the customers during usage phase.
As part of the ongoing spoiler project, the company assembled mid-scale solid fiber reinforced thermoplastic prototype spoilers by welding, and used this process for the first time in a closed structure at its facilities.
All risks arising from market risk type are systematically considered in the company's risk identification, assessment and management system for the short, med & long-term time horizon. The integration in the ERM system is in place.
In order to determine the digital transformation strategy, the selection and determination of the qualities of the products to be produced, the restructure of the supply chain, market, technology and needs analysis, competition analysis and determination of the appropriate competition strategy, production and logistics support planning are carried out.
The new collaborations were signed with the customers in 2021.The new investment is for the design and production of thermoplastic composite parts which will be featured in the aerial vehicles of the future.
The company undertook important roles in the National Space Program with IMECE, GOKTURK3 satellites, and unmanned aerial vehicles.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Turkish Aerospace is performing close follow up of the EU Green Deal and required technologies to achieve the EU Green Deal goals and objectives in the aviation industry. In 2021, Turkish Aerospace has prepared and issued a report on The EU Green Deal and Related Aviation Technologies for the SASAD ARGETEK commission. It has identified and incorporated the technologies required to achieve EU Green Deal's low carbon emission requirements in its Technology Road-map document. According to its Technology Road-map, the company is currently carrying out several R&D projects. In order to achieve low carbon emissions, weight reduction is of utmost importance in the aviation industry. Corresponding examples of R&D Projects in this field: • Determination and Modelling of the Effects of Additive Manufacturing on the Mechanical Performance of Structural Parts: Turkish Aerospace-funded R&D Project is carried out in collaboration with METU. • NLR Metal Additive Manufacturing Program-Phase 2: It is aimed to develop additive manufacturing processes from design up to certification/qualification phases in Turkish Aerospace -funded R&D Project carried out in collaboration with worldwide technolgy partners such as Ministerie van Defensie, NLR, Aeronamic B.V, Aerosud Aviation (Pty) Ltd, BeAM S.A.S, Mokveld Valves B.V, Oerlikon Eldim (NL) BV, Patria Aviation Oy, Shell Global Solutions International B.V, Thales Nederland B.V, Stichting Nationaal Lucht- en Ruimtevaartlaboratorium. • Thermoplastic Spoiler (Wing of Tomorrow): It is aimed to gain the new capability of single piece thermoplastic composite material design and manufacturing while developing a thermoplastic spoiler to be used on the Airbus Wing of Tomorrow Concept. • Low Cost Aileron Development: In this Project it is aimed to perform product design and prototype manufacturing of the Airbus A350-900 and A350-1000 ailerons by using a low cost manufacturing technique known as One Shot – SQRTM. • Development of Innovative Bonding Methods for Structural Composite Parts used in Aviation Applications: This TUBİTAK funded R&D Project is carried out in collaboration with İzmir Institute of Technology. According to the "2020 EU Industrial R&D Investment Scoreboard" prepared by the EC and published in 2021, Turkish Aerospace was listed among 2500 companies. The company spent 40%of its total turnover for R&D investments

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

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

Activity
Aviation

Technology area
Airframe

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)
88977

Comment
It represents "Determination and Modelling of the Effects of Additive Manufacturing on the Mechanical Performance of Structural Parts" Project

Activity

Aviation

Technology area
Airframe

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)
0

Comment
It represents “NLR Metal Additive Manufacturing Program-Phase 2” Project

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Activity
Aviation

Technology area
Airframe

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)
1698453

Comment
It represents Thermoplastic Spoiler (Wing of Tomorrow) Project

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Activity
Aviation

Technology area
Airframe

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)
287550

Comment
It represents Thermoplastic Spoiler (Wing of Tomorrow) Project

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Activity
Aviation

Technology area
Airframe

Stage of development in the reporting year
Applied research and development

Average % of total R&D investment over the last 3 years
≤20%

R&D investment figure in the reporting year (optional)
25096

Comment
“Development of Innovative Bonding Methods for Structural Composite Parts used in Aviation Applications” Project

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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
Reasonable assurance

Attach the statement
Verification_Statement_GHG_TUSAS_2021.pdf

Page/ section reference
Verification_Statement_GHG Turkish Aerospace_2021 pages:2,3,4

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
Reasonable assurance

Attach the statement
Verification_Statement_GHG_TUSAS_2021.pdf

Page/ section reference
Verification_Statement_GHG Turkish Aerospace_2021 pages:2,3,4

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

C10.1c

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

Scope 3 category
Scope 3: Purchased goods and services
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Downstream transportation and distribution
Scope 3: Use of sold products

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement
Verification_Statement_GHG_TUSAS_2021.pdf

Page/section reference
Verification_Statement_GHG Turkish Aerospace_2021 pages:2,3,4

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, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
No, but we anticipate being regulated in the next three years

C11.1d

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

National secondary legislation on Monitoring, Reporting and Verification of GHG Emissions(MRV)is in force since 2015. The aim of this legislation is to introduce cap & trade emissions trading system for emission intense sectors. Possible carbon market policy options for Türkiye were studied under the activities of Partnership For Market Readiness Turkey Project (phases 1&2). After the workshops which took place before pandemic, with the participation of public & private sector representatives, it is clear that Türkiye will have carbon pricing or tax system in three years. On the other hand, the Climate Law, set for completion is regarded as another milestone with emission trading system which could accelerate clean transition. Turkish Aerospace monitors compliance with emerging law and ETS regulation. The company will continue to attend related workshops for the alignment of its strategy with the National Strategy covering ETS regulation and Paris Agreement Requirements. The company follows internal and customer related requirements base on the European and International policy developments related with climate change. **The compliance, environment and energy working groups are always in interaction with current and emerging regulatory developments which have potential to influence the strategy. Related information is always carried out and communicated with the CEO.**

For the purpose to be ready for the carbon pricing mechanism before it is introduced, Turkish Aerospace has started to work towards reducing its GHG emissions to be resilient to the anticipated potential impacts in the long-term.

In order to predict future energy consumption in material energy use areas, the company identifies significant variables that affect the energy use and consumption. With the Solar Wall system installed, solar energy was used in the heating and production process. An annual energy saving of 7,350,000 kWh was achieved after this installation. In order to improve electricity consumption performance; lighting, autoclave units and air handling units' automation software revisions, roof skylight application, compressed air leak prevention improvements were made in the reporting year.

Within the scope of the energy management system, an Energy Working Group was formed and energy performance was started to be evaluated in 2-month periods. As a result of the continuous improvement works carried out in 2021, 16 thousand tons of CO2 emissions were prevented compared to 2019. The continuity and efficiency of this performance over the improvements are assessed in related meetings.

By 2030, it is aimed to meet the electricity demand from SPPs (%55) and green electricity (%45).

“As a result of the analyses made, it is known that 1 MW SPP will produce an average of 1.5 million kWh/year of electricity and approximately 7000 square meters of area will be needed for project. The planning has already completed.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

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

C11.3a

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

Objective for implementing an internal carbon price
Navigate GHG regulations
Stakeholder expectations
Change internal behavior
Drive energy efficiency
Drive low-carbon investment
Identify and seize low-carbon opportunities

GHG Scope
Scope 1
Scope 2

Application
To mitigate absolute company-wide total GHG emissions, using voluntarily certified carbon credits will be in our concern, for S1 & S2 emissions. The actual price figure provided was used as the purpose of offsetting our emissions. It is used as shadow price in some calculations.

Actual price(s) used (Currency /metric ton)
57

Variance of price(s) used
Due to EU Green Deal- Carbon Border Adjustment mechanism, increased pricing on imported goods is considered a key regulatory-driven climate risk. We closely monitor compliance with EU Green Deal, the emerging regulation and other critical climate policies. General balance model, possible costs of Border Carbon Regulation for 30€ & 50 € /ton CO2-e price in export and production categories of different industry sectors was assessed for 2020-2030 period, by TUSİAD ("The New Climate Regime through the Lens of Economic Indicators" Report)
Internally the evolutionary pricing is used for 50€. (57 $)
(As average currency €/$= 1.13 in 2021)

Type of internal carbon price
Shadow price
Offsets

Impact & implication
The likelihood of a carbon border-adjustment based tax is expected to have a long term effect on operational costs.
Climate related emerging regulation based risks are detected by this study which have impacts on the decision-making process for our current and future strategies.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
20

% total procurement spend (direct and indirect)
40

% of supplier-related Scope 3 emissions as reported in C6.5
20

Rationale for the coverage of your engagement
The rational for the coverage of this survey is assessment of suppliers which have impact on total procurement spent.
In corporate carbon footprint calculation studies; in order to calculate the greenhouse gases within the scope of Category-3 Transportation and Category-4 Purchased Products, information on the weight and transportation type of all kind of materials such as procured product/raw material/service/kit/chemical data was derived from this coverage.

Impact of engagement, including measures of success
In 2021, we worked with 292 domestic and 738 foreign suppliers. The expectations from our suppliers is to comply with all laws and regulations and to manage their business in accordance to the requirements and targets set up for ISO 14001 Environmental Management Systems. Including emission measurements, water consumption and waste management. The response rate and the performance rate are the main indicators of this success.

Comment
We perform assessments through our Procurement Risk Assessment module.
Demands of Company's Supply Chain Management from our suppliers:
Key Suppliers: Performing existing environmental management systems, (Ex: Waste and waste water management practices.) or acquiring ISO 14001 certification
Starting to record electricity / water / natural gas etc. consumption activity data
Information on the weight and transportation type of all kinds of materials such as procured product/raw material / service/kit/chemical
Focusing on energy-saving and renewable.
Participating the training on Greenhouse Gas Emission monitoring and reduction methods.

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Run an engagement campaign to educate suppliers about climate change
Provide training, support, and best practices on how to make credible renewable energy usage claims
Directly work with suppliers on exploring corporate renewable energy sourcing mechanisms

% of suppliers by number
20

% total procurement spend (direct and indirect)
40

% of supplier-related Scope 3 emissions as reported in C6.5
20

Rationale for the coverage of your engagement
We defined critical workers, critical machines, critical subsidiary industry companies, critical suppliers, critical subcontractors and critical buildings and identified the activities for the resources we need to ensure business continuity aligned with Paris Agreement Requirements throughout our company.
Local companies constitute a very important part of our company's suppliers as our nationalization efforts contributors.
In order for Turkish Aerospace to collect accurate and consistent data from its suppliers in the coming years, critical suppliers were taken into preliminary evaluation. A road map has been drawn to develop a good GHG emission data collection systematic accompanied with corporate renewable energy sourcing mechanism. Training of suppliers have been started before GHG emission inventory preparations. Reasons and related requirements for providing accurate and transparent data was explained. This engagement will be in progress during 2022.
In order to calculate the greenhouse gases within the scope of Category-3 Transportation and Category-4 Purchased Products, information on the weight and transportation type of all kinds of materials such as procured product/raw material/service/kit/chemical data was derived from this coverage.

Impact of engagement, including measures of success
The expectations from our suppliers is to comply with all laws and regulations and to manage their business in accordance to the requirements and targets set up for ISO 14001 Environmental Management Systems including emission measurements, waste management and water consumption. The response rate and the performance rate are the main indicators of this success. We need to ensure business continuity in the context of climate related topics aligned with Paris Agreement Requirements throughout our company's commitments. This engagement will allow our tier 1 suppliers to ameliorate their own performance as well as cascade their own suppliers.

Comment
As Turkish Aerospace, we take care to ensure that all our employees have equal information and risk awareness regarding the performance of our Company's subcontractors. In order to increase our effectiveness in the construction and negotiation of future contracts and to manage our supplier selection process with the right decisions, we take an inclusive approach by ensuring that the performance of subcontractors is followed by all relevant units. Supply chain risks are determined and followed up by the relevant units in detail, such as natural disasters, global crises, epidemics, and terrorist incidents. We determine the situations that may affect our activities by making capacity assessments for the production and design areas of our working partners.
We check the capacities of our suppliers on a monthly basis or during business transfer processes with the help of data entries made through the Subsidiary Industry Portal. In case we foresee a bottleneck in the medium and long term, we implement joint control and improvement plans with our suppliers by making risk entries

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C12.1b

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

Type of engagement & Details of engagement

Collaboration & innovation	Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number

20

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

40

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

Our customers are the Turkish Armed Forces and other public institutions and organizations in Türkiye and large aerospace and defense industry companies such as Boeing, Airbus, Sikorsky, Spirit, Northrop Grumman abroad.
The market, which is expected to reach USD 300 Billion in 2030, on the sectors of airlift, construction, agriculture, manufacturing and surveillance satellites in low orbit with UAVs will pose big opportunities to the sector. To focus on these opportunities will facilitate the green growth and national strategy implementation phase in the med term.
This group of customers and high-tech companies are always in the main concern of Turkish Aerospace . While the companies are being examined, in-house entrepreneurship and open innovation studies they have implemented, their collaborations with start-ups and their investments in start-ups are emphasized. It is planned to work on the topics that Turkish Aerospace decided to work on, in the med- term, primarily through acceleration / competitions to be organized within the framework of in-house entrepreneurship and open innovation program. The aim at this stage is to transform the ideas collected from within or outside of the company into projects and to evaluate them at regular intervals by the "Innovation Committee" to be established within Turkish Aerospace. In order to achieve this goal, it is planned to provide training and mentoring support to Turkish Aerospace employees who submit ideas to related programs or to ideas selected from outside the organisation. At the end of the process, it is aimed to work on the projects selected by the Innovation Committee and decided to invest, by including them in the company's ordinary business processes.

Impact of engagement, including measures of success

For the purpose of creating value in social, economic and environmental issues, we develop collaborations with our customers, public institutions and organizations. In the last 10 years, patent applications made as a result of studies in the field of space have increased significantly. Studies on new business models that space missions can use are shared with stakeholders and customers, as the reduction of barriers to entry into the sector makes it easier for most countries, including Türkiye, to launch a space program. In line with customer demands, the CDP Climate Change Program started to be reported for the first time by Turkish Aerospace (reporting year : 2021)
Measure of success is the collaboration projects or new investment projects partaking in climate related transition issues.
As an example, one of our customers is on the way of to launch zero- emission aircraft on the market by 2035.
In the last five years, Turkish Aerospace has invested US$700 million in technology and infrastructure. World’s fourth composite facility spanning 100 m2 was inaugurated in 2021. A new collaboration was signed with a customer, including a new investment for the design and production of thermoplastic composite parts which will be used as an important material in climate related transition studies

C12.1d

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

As Turkish Aerospace; We have determined to position innovation and technology as the main leverage in cooperation with all our stakeholders on the way to become a "world brand aviation and space company" that has achieved global competitiveness. Stakeholder satisfaction is one of our strategic focuses, which forms the basis of our strategic planning. We strive to meet the demands and expectations of our stakeholders in the best way possible. We develop collaborations with many of our stakeholders, including our employees, customers, suppliers, universities, public institutions and organizations and the society, in order to create value in social, economic and environmental topics. We carry out aviation and space base activities of our country with our original products, projects, technology centers and R&D investments. Within the framework of the “Domestic and National Technology Move” initiated in 2005, we continue our production activities as a subcontractor with our successful deliveries within the scope of strong collaborations we signed with our stakeholders on a global scale.

Developing technologies to reduce emissions generated in the use phase of the products is the material issue for Turkish Aerospace.

Emerging technologies, fuel, material and design pathways including innovative operational solutions for existing and future products are on the way of development. As an example, one of our customers is on the way of to launch zero- emission aircraft on the market by 2035. In the last five years, Turkish Aerospace has invested US$700 million in technology and infrastructure. World’s fourth composite facility spanning 100 m2 was inaugurated in 2021.

It is our priority to increase the energy efficiency awareness of our stakeholders by complying with the relevant legal and other requirements in order to improve our climate-related performance day by day. Although we increased our total indoor area by 55% in 2021 compared to 2019, we limited our energy consumption with an increase of 25%. Thanks to our energy management system activities and increased awareness, we have increased our energy performance and ensured that the energy consumption remains below the growth rate of our company.

While identifying technology topics that will contribute to our sustainable development, we work with experts in the relevant field, examine and analyse the technologies on which the world's leading aerospace and defense companies, research institutions and universities are working. In 2021, we developed our project collaborations with universities within the scope of the activities of our R&D Center. By adding 8 new projects to our university-industry cooperation projects that we carried out in 2021, we increased the number of our projects within this scope to 22. We received support for our 2 new projects within the scope of TUBITAK ARDEB 1004 Program. By closely following the technological developments that determine the future of our company, we focus on automation and digitization technologies, new materials, alternative energy sources, artificial intelligence, data analytics and Industry 4.0 technologies, through which we will realize the technological transformation. With our patent and utility model applications, we rank first in the field of aviation and space technologies in our national portfolio, and we are in a leading position in the sector.

Turkish Aerospace initiated a new project with the goal of creating a training catalog based on augmented reality (AR) and virtual reality (VR). The VR technology was used for Occupational Health and Safety training. The company is preparing to offer training on production and design operations with VR and AR support. Training related to climate change will also be included in this program.

In the evaluation made by The Green Organization in 2020, we were selected among 500 projects and received the "Gold" award from the Green World Environmental Awards, which is considered one of the most prestigious environmental awards in the world in the Waste Management category.

With our R&D expenditure amounting to 204 million USD, we came second in the research of "R&D 250, Companies Making the Most R&D Expenditure in Türkiye". Turkish Aerospace has proven the value it attaches to society and environment with its AKSUNGUR product. Completed in a short period of 18 months and included in the National inventory, AKSUNGUR joined the firefighting missions by undertaking the task of air surveillance during the 2021-forest fires in the country. Serving as a great aid in the firefighting efforts, the unmanned aerial vehicle remained in the air for 60 hours, played a role in saving 3 people from a fire- observation tower.

Emergency Manned Reconnaissance Aircraft which is included in the inventory of Turkish Armed Forces is actively partaking in search and rescue, operates in emergencies such as earthquakes and floods.

C12.2

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

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

C12.2a

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

Climate-related requirement
Climate-related disclosure through a non-public platform

Description of this climate related requirement
In corporate carbon footprint calculation studies following requirements are fixed;
In order to calculate the greenhouse gases within the scope of Category-3 Transportation and Category-4 Purchased Products, information on the weight and transportation type of all kinds of materials such as procured product/raw material/service/kit/chemical is needed. (ISO 14064:2018 requirements)
Other relevant requirements;
Is the "Environmental Aspects and Impact Form" of the department, prepared and up-to-date in order to evaluate the current risks? Is it known to staff?
Have the personnel received Environmental Awareness and Environmental Management System Awareness Training in the last 1 year? Are records available?
Does the staff pay attention to water and electricity consumption? Are records available ?
Are there any project studies on the use of renewable energy sources?
Are there any emission sources from activities?
If there is an emission source; Is the exhaust outlet controlled and appropriate?
Are the consumption amounts of the raw and consumables used monitored?

% suppliers by procurement spend that have to comply with this climate-related requirement
20

% suppliers by procurement spend in compliance with this climate-related requirement
20

Mechanisms for monitoring compliance with this climate-related requirement
Certification
Supplier self-assessment
First-party verification
Second-party verification
Supplier scorecard or rating

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

C12.3

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

Row 1

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

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
No, but we plan to have one in the next two years

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

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy
Monitoring of consistency of the engagement activities with overall climate strategy is ensured under the supervision of the CEO. Climate related policies and guidelines are examined, then implemented by taking into account IPCC guidelines and Paris Agreement time frames.
Corporate capital planning, investment horizons and the useful life of major company assets are always assessed.
The company follows internal and customer related requirements base on the European and International climate related policy developments. There is an interactive communication process through related departments in the alignment phase.
The company will continue to attend related workshops for the alignment of its strategy with the National Strategy covering Paris Agreement Requirements and ETS Regulation. The compliance, environment and energy working groups are always in interaction with each other. For the purpose to be ready for the carbon pricing mechanism before it is introduced, Turkish Aerospace has started to work towards reducing its GHG emissions to be resilient to the anticipated potential impacts in the long-term.
The awareness raising of employees take place to leverage corporate culture.
With the leadership of the sustainability committee, the internal and external consistency is facilitated, monitored and communicated.

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
Carbon tax
Taxes on products

Specify the policy, law, or regulation on which your organization is engaging with policy makers
The EU Green Deal and Taxonomy
The EU Green Deal would prevent the risk of carbon leakage by putting a tax or carbon price on imports of certain goods in EU. Pricing on imported goods is considered

as a key emerging regulatory-driven climate risk at Turkish Aerospace in the context of Carbon Border Adjustment mechanism.

Policy, law, or regulation geographic coverage
Regional

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

Your organization's position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
The incoming system would have a long term effect on operational costs in the future.
The company monitors compliance with this emerging regulation, it has a close relationship with relevant ministry directorates in Türkiye and works together on the transposition of EU regulations into Turkish law and their regulations.

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

Focus of policy, law, or regulation that may impact the climate
Mandatory climate-related reporting

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Implementation phase of MRV regulation and other progressive workshops between 2019-2021.

Policy, law, or regulation geographic coverage
National

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

Your organization's position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
Turkish Aerospace works in cooperation with public institutions and non-governmental organizations on priority issues such as combating climate change, sustainable finance, resource efficiency, energy and waste management.
The company has provided several feed-back on current as well as potential future regulations covering environment- and climate-related issues. On the implementation phase of MRV regulation, the featured example of direct engagement with policy makers, was to survey the procedures of the MRV Regulation including Emission Trading System implementation phase. The environment and climate group shared its views, and worked in cooperation with the ministry.
Turkish Aerospace supported the view of general consideration that in the early phase; the sectoral experience gaining is important and ETS practices need to be applied after the MRV experience.

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

Focus of policy, law, or regulation that may impact the climate
Other, please specify (Zero Waste Project)

Specify the policy, law, or regulation on which your organization is engaging with policy makers
The Zero Waste Project was initiated in March 2019 with the aim of efficient use of resources, reducing the amount of waste generated, establishing an effective waste collection system and ensuring the recovery/recycling of wastes. Turkish Aerospace has become the first company among industrial establishments in Türkiye to receive the Basic Level Zero Waste Certificate issued by the Ministry of Environment, Urbanization and Climate Change. Zero Waste Certificate was obtained on 30.01.2020 and is valid until 30.01.2025. Turkish Aerospace supported the awareness raising events on this topic, for different sectors and shared its opinions in the related field.
In order to raise environmental awareness and draw attention to important issues such as sustainability, climate change, circular economy, resource efficiency, and zero waste, joint studies are carried out with the Corporate Communications Unit, apart from the Green Flag League project. In this context, awareness activities were carried out in 2021 based on the themes of "Zero Waste Life Philosophy" and "For a Sustainable World" and the slogans "How can we save? ".

Policy, law, or regulation geographic coverage
National

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

Your organization's position on the policy, law, or regulation
Support with no exceptions

Description of engagement with policy makers
At the 76th General Assembly of the United Nations, Türkiye announced that it would approve the Paris Climate Agreement and with the Presidential Decision dated 04.11.2021 and numbered 4738, the agreement entered into force on 10.11.2021. In this context, zero waste philosophy, carbon neutral industry practices and the use of renewable energy resources will gain importance in the Green Agreement adaptation process, and the role of climate change will increase in strategic targets.
Turkish Aerospace performance on zero waste applications has been used by the Ministry as a good practice example for other industries of the same sector.

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 (Defence industry manufacturers association (SASAD). It supports the SASAD members to perform aligned with the Paris Agreement principles on climate related issues and makes efforts in this regard.)

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)
Turkiye is in the way of establishing a carbon emissions trading system (ETS) currently. Under the activities of this project, the carbon prices can have significant impact on the company. Purchase of carbon credits to respond cap & trade base targets or carbon taxes for plant wise emissions are assessed in this context.
In February 2022, the National Climate Council has completed its works which will form the infrastructure of short, medium and long-term strategies, actions, policies and legislation in line with Turkiye's 2053 Net Zero Emissions and Green Development target. Turkiye is expected to submit its updated nationally determined contributions at the 27th Conference of Parties (COP27) in 2022. A Climate Law, set for completion is regarded as another milestone with emission trading system which could accelerate clean transition.
Turkish Aerospace monitors compliance with this emerging law and other ETS regulation, it has a close relationship with relevant ministry directorates in Türkiye and works together on the transposition of EU regulations into Turkish law.
Defense industry manufacturers association (SASAD) supports its members to perform aligned with the Paris Agreement principles and targets on climate related issues and makes efforts in this regard.
With the defense industry manufacturers association (SASAD), series of meetings were realized during 2021.
SASAD
Relevant decisions are:
1-Starting the carbon emission inventory preparations within the scope of the Paris Agreement/ IPCC requirements.
2- Scheduling related workshops and awareness raising training in the Association.
3-Representation of all companies, including Turkish Aerospace , which are members of SASAD, at the Ministry meetings
4-Discussing the outcomes of the Climate Council progressively.
5-Initiating access to green finance with the EBRD
6-Detailing the work with the Ministry of Industry for EU Green Deal harmonization
The company will start to attend directly to related workshops of National Climate Council, for the coming National Strategy Meetings.

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
TURKISH AEROSPACE SUSTAINABILITY REPORT 2021.pdf

Page/Section reference
5,14,24,25,48,52

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures

Comment
Sustainability Report 2021 is available on the company's website
https://www.tusas.com/en/corporate/sustainability

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	Yes, both board-level oversight and executive management-level responsibility	During the investments,the impacts on biodiversity in land and aquatic environment is always in the concern of our organization in decision making process. Cost allocation covering biodiversity category in the investment actions is evaluated for each case in the sustainability and EC meetings, and the oversight on the R&O's assessments is performed both in executive and board level.The water policy covering biodiversity has been revised currently. Sustained communication efforts and campaigns to increase awareness on biodiversity and its values, is planned in company wide scale. The first step is to arrange organization base awareness raising activities about global and regional biodiversity. We can ensure this activity with the knowledge and assistance of the agricultural faculty which carries out its activities in the region. Our first goal is to reduce the direct pressures on biodiversity and promote sustainable use in our activity side. For this purpose we will evaluate our current impact on our environment, then to improve the status of biodiversity by safeguarding ecosystem and species, this study will be executed aligned with area-based conservation measures.	<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	Yes, we have made public commitments only	Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas Commitment to no conversion of High Conservation Value areas	<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, but we 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	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Education & awareness Law & policy

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, we do not use indicators, but plan to within the next two years	Other, please specify (The indicators will be evaluated.)

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
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments	Turkish Aerospace Water Policy page 2/2 (Article I) TURKISH AEROSPACE WATER POLICY.pdf

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.

TURKISH AEROSPACE RISK PROCEDURE TABLES

TURKISH AEROSPACE ENVIRONMENTAL& CLIMATE CHANGE POLICY
TURKISH AEROSPACE ENVIRONMENTAL& CLIMATE CHANGE POLICY.pdf
TURKISH AEROSPACE RISK PROCEDURE TABLES.PDF

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	Environmental Management and Climate Change Unit Chief	Other, please specify (Environmental Management & Climate Change Unit Chief)

SC. Supply chain module

SC0.0

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

SC0.1

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

	Annual Revenue
Row 1	1260000000

SC1.1

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

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges

SC1.4

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

SC2.1

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

SC2.2

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

SC4.1

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

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms