Welcome to your CDP Climate Change Questionnaire 2021

C0. Introduction

C0.1

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

ASELSAN is a face of technology in Turkey for decades and an inspiration for the manufacture of electrical /electronic equipment since its establishment in 1975.
ASELSAN's vision is being a national technology company that maintains its sustainable growth by creating value in the global market; preferred due to its competitiveness, trusted as a strategic partner, and caring for the environment and people.
Today ASELSAN is a world class brand in expanding systematically into the local and global markets, with over $2.3 B in revenue and almost 8,800 employees. ASELSAN has become a high technology, multi-product defense electronics company by introducing state-of-the-art equipment and systems solutions for both military and professional applications in 3 continents and over 70 countries.
ASELSAN is a technology provider not only for the military but for Turkey in general. Military technologies are translated into novel products in a wide array of areas such as public safety, transportation, health, energy and automation systems, communication and high-end agricultural technologies. In addition to meeting the national technological needs in line with the mission, ASELSAN also enjoys the contribution of its export contracts to the progress of Turkey.
ASELSAN operates under five business sectors:
• Communications and Information Technologies Business Sector (HBT): Tactical Radios, Tactical Area Communication Systems, Avionic, Satellite and Naval Communication Systems, Public Safety Communication Systems
• Radar, Electronic Warfare Business Sector (REHIS): Radar Systems, Electronic Warfare Self Protection Systems, Electronic Warfare Intelligence and Attack Programs
• Defense Systems Technologies Business Sector (SST): Weapon Systems, Command Control (C4ISR) Systems, Naval Combat Systems, Air and Missile Defense
• Microelectronics, Guidance & Electro-Optics Business Sector (MGEO): Electro-Optic Systems, Guidance & Unmanned Systems, Avionic Systems, Microelectronics
• Transportation, Security, Energy, Automation & Healthcare Systems Business Sector: Transportation Systems, Security Systems, Traffic and Automation Systems, Energy Systems, Homeland Security Systems, Healthcare Systems.(UGES)

The Company maintains engineering operations in Ankara, production and engineering operations in Macunköy, Akyurt and Gölbaşı. General Management is located in Ankara Macunköy. Some management offices are located in Istanbul Teknopark.
The Macunköy Facility was established over a total area of 186,000 m2 of which 132,551 m2, is closed. ASELSAN Macunköy Facility is home to the CEO, Communications and Information Technologies Business Sector and Defense System Technologies Business Sector and Transportation, Security Energy Automation and Healthcare Business Sector.
The Akyurt Facility was established on a total area of 302,402 m2 of which 80,672 m2 is closed. The Microelectronics Guidance and Electro-Optic Business Sector is located in the ASELSAN Akyurt Facility.
The Gölbaşı Facility was established in the Gölbaşı district of Ankara, and houses production plants for radar and electronic warfare systems for land, air, sea, space and unmanned platforms. This Facility was established on a total area of 664,273 m2, of which 84,532 m2 is closed. In the reporting year; Teknokent (ODTU- Titanium) offices and Akyurt 2 facility were included in the boundaries.
In ASELSAN, where decreasing carbon emission is one of the strategic goals, carbon emission is monitored since 2009. In 2020 ASELSAN was ranked in A (-) band, she is the first and only company that is ranked with the highest initial score among Defense Industry firms in Turkey and in the Region, participating in CDP survey. ASELSAN has decreased carbon emission significantly through its efforts, and continues its operations by increasing momentum in the fields of increasing energy efficiency in production, giving priority to production technologies that decrease carbon emission, switching to use of energy that does not cause carbon emission. On-line training on ISO 50001:2018 EMS and climate change related impacts of energy usage, have been completed in 2020, covering all workers of ASELSAN.
The evaluation of corporate governance rating performed by SAHA Corporate Governance and Credit Rating Services was confirmed as 9.29 out of 10 on 11.12.2020.
ASELSAN, which has been working seriously since the first day of the Covid-19 pandemic process, won the Silver Award at the Stevie International Business Awards with its practices that add value to its employees and stakeholders. The company became the first defense industry company to be awarded the COVID 19 Safe Production / Safe Service Certification by fulfilling all the standards set by the TSE.
Deloitte, which has determined the fastest growing technology companies in Turkey for the 143rd time with the Technology Fast 50 Turkey Program, has awarded ASELSAN in the Big Star and Fast 50 categories.

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
Reporting year	January 1, 2020	December 31, 2020	No

C0.3

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

Turkey

C0.4

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

TRY

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

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 Board Chair who has been assigned as CEO as of April 27, 2018; has a direct responsibility for climate related issues on behalf of the Board and EC. The CEO also has an execution responsibility in the field of social responsibility and environment. The board consider climate-related issues when reviewing and guiding their business strategy aligned with the economic performance of the company. Following the Strategic Plan, the Board carry out oversight power on Sustainability Committee's Program integrated with climate related issues impacting economic, social and environmental performance of the company. In order to conduct its responsibilities ASELSAN's Board of Directors formed three committees: Audit Committee, Corporate Governance Committee, Early Detection and Management of Risk Committee. The 3rd one is comprised of two Board members who ensure the determination of the operational, strategic, financial and other climate related R&Os. ASELSAN CDP Execution Group was established in 2019. This group is working under the presidency of Corporate Management Vice President who is a member

	of Executive Board. The group's goal is to carry out science-based target studies and strategy review with scenario-base analyses. In this group there is one representative from each sector chair, including financial affairs and strategy department. Energy reduction projects that will serve as a basis for setting targets are also reported to the same group. In the reporting year, the Corporate Management Vice President started to assist the Board of Directors in fulfilling oversight of CDP related issues with the collaboration of ERM within the organization. In 2020, Climate Change Management Unit (CCMU) has been established under the roof of Integrated Management Systems. The Unit works with all facilities' leaders to drive an integrated, enterprise-wide management on climate issues.

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	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	The Board reviews and guides climate related risk management policies as scheduled. The Corporate Management Vice President who leads the Sustainability Committee, briefs the executive committee (EC) of ASELSAN about climate related developments and practices by bringing the attention of the EC to social, legal and environmental R&O's that may have an impact on the Risk Management Policy of the Company. The CEO and the Board of Directors oversees policy by considering global climate related issues, government relations and corporate responsibility including reviewing and providing oversight of the Company's Environmental Sustainability Program. The board considers also 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. In 2020 the following decisions were carried out for addressing climate-related risks and opportunities. 1- At the last quarter of the year, the Board announced its intention to put an ambitious emissions

	targets for addressing climate-related issues	reduction targets by 2050 and the enthusiasm to achieve them by a Climate Transition Action Plan. The planning and other actions will be discussed and developed during 2021-2022. It was stated that early action to ensure reductions in emissions will lead to a more innovative technology where climate related opportunities will drive the company to a more competitive business field. For the year 2021, the decision of presiding the Sustainability Committee by the Board Chair/CEO was made by the board executives.The first meeting was executed in June 2021. 2-Climate Change Management Unit has been established under the roof of Integrated Management Systems. This unit will carry out the coordination, reporting and monitoring processes of all climate-related issues. 3. Supply Chain Management Vice President has been assigned. Within the scope of the purchasing processes, It has been decided to collect data on climate change related issues from the suppliers who have a direct impact on ASELSAN. (Due date: end of 2021) 4. The preparation of videos on climate-related issues to all delegations and employees of the value chain was achieved 5.ISO 50001 Energy Management Systems and climate change related impacts on-line training for all employees of ASELSAN was completed. Monitoring and approval process of the Board is in place. 6-Visible Leadership activities started in 2020. Every month, a field visit was made with the relevant Vice President or the Chairman of the Board of Directors, and climate change and environmental studies were observed with a wide participation with employees.

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)	Responsibility	Frequency of reporting to the board on climate-related issues

Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	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 direct responsibility for climate change within ASELSAN lies with Executive Committee headed by the CEO representing also the Board Chair.

The CEO informs the board of directors who oversight the company performance on climate related issues. The Board assign strategic and program management responsibility to related board committees. ASELSAN's Board of Directors formed following committees to ensure the communication based integrated management of risks & opportunities.

Audit Committee is comprised of three independent Board members. Its main duties are to ensure disclosure of the financial data and to oversee the functioning and effectiveness of the accounting, independent audit, internal audit and internal control systems of ASELSAN.

Internal Audit Presidency's main duties are to ensure the follow-up of enterprise risk management system aligned with ASELSAN's strategy, politics and other process. It oversees the functioning and effectiveness of the risk management system processes. Internal Audit Presidency reports directly to Audit Committee and Board of Directors. The committee assembles at least four times a year.

Early Detection and Management of Risk Committee (EDMR) is comprised of two Board members. It is chaired by an independent Board member. Committee ensures the determination of the operational, strategic, financial and other climate related risks and those risks are managed in compliance with company's enterprise risk-taking profile. The Committee assembles at least six times a year. It oversees the performance of the enterprise risk management system.

Enterprise Risk Management Coordination Council is responsible to assign a risk representative who has the duties to prepare risk detection and management documents and to make the coordination of related activities which are reported to EDMR Committee. ASELSAN's vision is to be the national defense industry company by maintaining its sustainable growth with creating value in the global market and to be preferred due to its competitiveness, to be trusted as a strategic partner, and to care for the environment and people. In line with this vision, the Company prepare five-year strategic plans that are updated every year, as well as operational plans and three-year budgets. Through this method, the Company's short- and mid-term targets are determined by taking long-term targets into account with resource planning, process improvement and other development activities. One of the EC core members who is the Vice President of Shared Services presides the Sustainability Committee (SC) for sustainability and climate related actions. For the year 2021, the decision of presiding the Sustainability Committee by the Board Chair/CEO was made by the board executives in 2020.

The SC develops and implements economic, environmental and social sustainability strategies focusing on responsible consumption and production by setting targets to reduce the impact of

identified risks and making performance reviews. The seize of identified opportunities are also discussed in this committee.
The Corporate Management Vice President is the authorized person who drives and adapts climate related decisions of the company. The activities are executed by the following positions in the SC: Management Director of Infrastructure and Facilities who performs energy related legal and operational issues in the operational field.
Finance Director, Strategy Management Director, Investors Relations Manager, Enterprise Risk Management Manager, Supply Chain Management Vice President provide all guidance on their own expertise about climate management issues by reporting to Vice President. In 2020, Climate Change Management Unit (CCMU) has been established under the roof of Integrated Management Systems. The Unit works with all facilities' leaders to drive an integrated, enterprise-wide management that includes the products, services, processes, operations, contractors and employees
The IMS Manager works with all facilities' leaders to drive an integrated, enterprise-wide management that includes the products, services, processes, operations, contractors and employees. IMS ensures to drive the calculation of carbon footprint value of the facilities annually in compliance with ISO 14064, making notifications to national/international initiatives in connection therewith. ASELSAN's objective "to minimize the impact on global climate change by monitoring and reporting of greenhouse gas emissions in a transparent approach" was included in the Environmental Management System Policy by the top management of ASELSAN, with the guidance of IMS. The information forming, based on climate related R&Os are updated first by the IMS position. With the collaboration of internal control manager, the risk mapping is updated for identifying the potential risks of flooding and storms, but also the consequences of these events: environmental, property damage, impact on the business, etc.

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	ASELSAN incentives certain behaviors and performances for responsible production and consumption.

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 inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	The CEO carries out performance assessments and decisions in line with support to Sustainability and CDP

			Reporting. Performance of the activities' incentive metrics is reported to the Board of Directors and factor into executive compensation through the Balanced Scorecard Method.
Other C-Suite Officer	Monetary reward	Emissions reduction project	The Corporate Management Vice President carries out performance assessments and decisions in line with support to Sustainability and CDP Reporting. Performance of the activities' incentive metrics is reported to the Board of Directors and factor into executive compensation through the Balanced Scorecard Method.
Environment/Sustainability manager	Monetary reward	Emissions reduction project	Performance indicators cover CO2 emission reduction, energy and natural resources consumption reduction, support for Sustainability and CDP reporting. And these indicators find place as a target in the Balanced Score Card Method. The corporate and personal performance is evaluated through the Balanced Scorecard Method and the realization scores has a direct impact on the salary increase.
All employees	Monetary reward	Emissions reduction target Energy reduction project Efficiency target Behavior change related indicator	In ASELSAN, there is a suggestion system called "Idea Management System" in the intranet since 2013. This system is accessible for all employees. An employee who has an innovative idea on climate change, energy efficiency or improvement on any other topic can send his/her idea note to the Strategy Department through this suggestion system. The Strategy Department evaluates the idea and if it is feasible, the idea note is shared with the related department. The employee is entitled with a monetary reward if the idea is assessed to be applicable and profitable for the company. If the proposal results with an emission reduction the reward is 3 gold coins. Other rewards:1-The congratulatory

			message for the World Water Day was shared with all ASELSAN members by the Vice President of Corporate Management. With the congratulatory message including detailed information on water consumption, an awareness competition was initiated. Winners of the competition were given aerator as a gift to help people save water in their homes and reflect this awareness to their families. 2- The "Clean Future, Clean Cities" painting contest organized with the Ministry of Education was held for the children of ASELSAN's employees, and the winners were awarded with a gold award. 3- Awareness raising activities on zero waste monitoring and competitions in the form of questions and answers were organized. In the Question Cube competition, we ask to the staff 6 questions about climate change and the environment. We reward 3 people chosen by lot from among those who answer the questions correctly. 4- A contest is organized in order to eliminate or reduce the adversities that may be encountered in terms of the environment with the suggestion of measures to be taken against these situations. The awards are presented at the award ceremony held at the General Directorate.
All employees	Non-monetary reward	Behavior change related indicator Company performance against a climate-related sustainability index	Other events and activities: 1-EYS Cup;This is a traditional competition, held between the Vice Presidents, every year. The environment/climate related criteria for the relevant year are determined in January. The Sector Presidencies are assessed based on these criteria and a winner is chosen at the end of the year. The Cup is presented to the winner at the Executive Board meeting by the Chairman of the

			Board of Directors/CEO, and the cup is displayed at the relevant offices throughout the year. Among the criteria, there are items such as the rate of participation in climate change education, the rate of making improvement suggestions on environmental issues. 2-Visible Leadership activities are held every month for managers to participate in climate change and environmental management, to see the work on the field, to communicate with employees on these issues and to get their opinions. Every month, a field visit is made with the relevant Vice President or the Chairman of the Board of Directors/CEO, and climate change and environmental studies are observed with a wide participation with employees. 3-Training on climate change, wastes and environment were held on Instagram. There are 6000 followers

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	1	Major global, national and enterprise risks and opportunities which have potential impacts on our operations and life of our assets according to the profile of the climate related risks that we may face are considered in 1 year period for short-term time horizon.
Medium-term	1	3	Major global, national and enterprise risks and opportunities which have potential impacts on our operations and life of our assets

			according to the profile of the climate related risks that we may face are considered in 3 years period for medium-term time horizon.
Long-term	3	5	Major global, national and enterprise risks and opportunities which have potential impacts on our operations and life of our assets according to the profile of the climate related risks that we may face are considered in 5 years period for long-term time horizon.

C2.1b

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

At ASELSAN's practice; there is a great bonding between Corporate Strategy and Enterprise Risk Management system. We believe this understanding contributes positively on ASELSAN's sustainability. In this approach; every risk factor that could be an obstacle by meaning of achieving ASELSAN's goals, are being defined. In risk assessment phase ASELSAN applies a risk matrix where risks are placed by their impact and likelihood. This is a 5x5 matrix and the impact degree is ranged from Very Low to Very High. Furthermore; to evaluate, to monitor and to diversify the risks better, every risk is categorized under 4 components (Financial, Operational, Compliance and Strategic).

In order to minimize and prevent from the impacts of climate change; yearly a very comprehensive insurance policy is being taken by ASELSAN. Risks such as; snowstorm, tornado, flood (increase in severity and frequency of extreme weather events) are some of the subjects of this policy, moreover every employee and ASELSAN's all four facilities are fully covered.

Financial risks and non-financial risks that can significantly have an impact on our business objectives or financial condition vary in different conditions. Based on our context of risk assessment procedure, the substantive risks can be measured depending on assessment factors; impact of occurrence and size of potential impact. In case to find out whether the issue is a significant risk or not, we conduct a risk assessment according to these criteria to prioritize the risk. The assessment method is applicable for every risk.

ASELSAN defines substantive potential impact on its business as the change to operations and cost and considers reputation risks having negative impact on company's own business, operations, revenue, profitability and overall market value in Borsa Istanbul.

Sustainability and environment friendly practices are gaining more and more importance all around the globe. The investors' approach to companies' such practices is also evolving accordingly. As days pass by, the number of corporate funds which are including sustainability as a separate parameter to their evaluation criteria and even investing only to firms with high ESG scores are increasing. Our efforts on climate change mitigation will help ASELSAN positively differ from other publicly traded companies on the eye of current and prospective investors.Taking these concerns into account, we consider the most important aspect of climate change that influences the strategy as the opportunity to develop a green business. **From this point of view, ASELSAN foresees climate change not only as a risk factor but also as an opportunity for widening its environment friendly solutions, as ASELSAN is a technology company.**

We define substantive financial impact; as risks ending with a daily production disruption in our main facilities.
The risks are identified and assessed based on their potential impact to cause a facility shut-off. In the reporting period, the substantive impact of a daily shut-off of our production facilities threshold is 70 million TRY.

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

ASELSAN's Enterprise Risk Management Policy aims to ensure that appropriate actions are taken against all uncertainties that threaten the corporate existence of the Company. The corporate identity of the Company and the interests of all its stakeholders are protected under all circumstances. Risk management is an integral part of corporate governance. At ASELSAN, the information produced within the scope of risk management activities is integrated into decision mechanisms. “Top-down” and “bottom-up” approaches are applied together in Enterprise Risk Management studies, risks that may affect ASELSAN's achievement of its goals are identified, evaluated, monitored and reported together with the risk reactions and the measures to be taken. At ASELSAN;The Enterprise Risk Management process is regularly reviewed and improved.
At both company and asset levels, climate change related risks and opportunities include, changes in fuel and energy prices, climate related laws and regulations, global competitiveness, changing customer needs and suppliers’ profile, potential threats of national security and employee related issues. The climate related risks and opportunities at the company level are assessed by the Sustainability Committee. Risks and opportunities associated with the environment or climate change are often coupled with energy-related activity and are subject to our Risk & Opportunity Evaluation

Process. The Strategy Department in coordination with the Sustainability Committee is responsible of setting targets to reduce the impact of identified risks and making performance reviews to assess whether the climate related targets are met and also decides on how and when the identified opportunities can be seized. Sustainability Committee and the Early Detection and Management of Risk Committee review and finalize all climate related risk analysis and present the critical risks that are assessed to be of “High” importance to the Board of Directors according to the scoring methodology defined below. They also present a report to Board of Directors about the financial and operational measures that need to be taken by ASELSAN to prevent the occurrence of the identified risks. The Board of Directors decides which measures shall be applied and the evaluations are then reported to the Early Detection and Management of Risk Committee to be monitored and brought into action.
Additionally, when the relative significance of climate-related risks is determined by the strategic decision makers after a comparable structured review, they are itemized as implementation plan within the scope of ISO 14001:2015 for a detailed assessment and planning.
The risks are first analysed at the facility and activity level as compliance risks, project risks, operational risks, management and adaptation risks. These are assessed according to the methodology given as process(es) for managing climate-related risks and opportunities. The identified risks are then classified to be; very low, low, medium, high and very high (critical). The results of the evaluation are reported to the EC, which in turn makes decisions. ASELSAN’s overall risk management objective is to reduce controllable risk impacts and minimize the impact of the ones that cannot be controlled.
We analyse short, med and long-term risks and opportunities having the potential of substantive strategic and financial impact on the organization.
We define substantive financial impact; as risks ending with a daily production disruption in our main facilities.
The risks are identified and assessed based on their potential impact to cause a facility shut-off.
Process(es) for managing climate-related risks and opportunities: The major climate related risks and opportunities at the asset level are the events that may have a major impact on the GHG emissions which may trigger compliance risks.
These events usually are related to energy and fossil fuel consumption.
Renovations in product design enabling less energy consumption are assessed as an opportunity, and increased consumption of fossil fuel during production is assessed as a major climate related risk.
The process is described as follows: First, the probability of occurrence of the identified risk is scored from Very Low to Very High occurrence. Then, the impact of the identified risk event is determined from Not Important to Critical.
According to final score the risks and opportunities are prioritized from Very Low to Critical. If the assessment result is Critical, the company establishes a response plan and implements the response and regular monitoring.
The responsible who identifies first the risk and/or opportunity, tracks the actions. Communication with the risk manager is always setup within a defined official time frame. In 2020, Climate Change Management Unit has been established under the roof of Integrated Management Systems. This unit carries out the coordination, reporting and

monitoring processes of all climate engagement activities across business divisions and external official institutions and organizations.
The Integrated Management Systems Manager also involves to operations, actions and status tracking for climate-related R&O. The opportunities are evaluated by related department, with the above-mentioned team survey and reported to the Board of Directors. If there are new opportunities detected for med-term and long-term time horizon, they are integrated in the annual budget planning.
Loss of productive labor force as a consequence of health problems caused by environment and climate related problems ending by facility shut-off, is an example of physical risk assessment realized by ASELSAN's OHS department. COVID-19, which has affected our country and the whole world, has been at the center of the ASELSAN's Enterprise Risk Management System. In order to reduce the impact of the epidemic, measures covering all internal and external stakeholders were implemented at ASELSAN. In addition, all possible effects of the epidemic on ASELSAN's strategic goals, operations, financial situation, and all applicable laws and regulations were evaluated through scenario-based analyzes.
Another example of transition risk is to make some additional modifications in the performance parameters of designed products as a consequence of climate related conditions. (Specific confidentiality constraints prohibiting the disclosure)

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	ASELSAN is always in compliance with current regulation, when a current regulation- based climate related potential risk is detected, it is forwarded to Enterprise Risk Management Coordination Committee Representative via "Risk Cards". ASELSAN management identified with a form the risks and opportunities which have impact on Integrated Management Systems' performance (IMS). This form is called AS-F-81-Environmental Risk and Opportunities Assessment Form. The climate related detailed R&Os (MRV, PMR activities etc) are assessed based on the context of the company. Although ASELSAN is not in the scope of MRV; in 2020, Current National MRV regulation was reviewed with an approach of detecting potential risks that our industry may face in mid-term period referring PMR project of the Ministry. Sustainability Committee and the Early Detection and Management of Risk Committee reviews and finalizes all climate related risk analysis, and presents the critical risks that are assessed to be of high importance to the Board of Directors, according to process and the scoring methodology defined in C 2.2 They also present a report to Board of Directors about the financial and operational measures that

		need to be taken by ASELSAN to prevent the occurrence of the identified risks. The Board of Directors decides which measures shall be applied and the evaluations are then reported to the Early Detection and Management of Risk Committee for the purpose to be monitored and brought into action. Additionally when the relative significance of current regulation risks are identified and assessed by the strategic decision makers after a comparable structured review, they are itemized as implementation plan within the scope of ISO 14001:2015 for a detailed management. Risk rating is classified as low- medium and high rate. When high rated climate related risks are identified, the action planning commence with the initiation of IMS department. Risks and Opportunities document is annually updated and reviewed with the collaboration of IMS Department and Enterprise Risk Management Coordination Committee Representative.
Emerging regulation	Relevant, always included	Emerging Regulatory risks indicate the potential increase in costs (carbon taxes related with energy and raw material or future cap & trade implementation plans and development of a 'Climate Change Law) and the discouragement for the establishment of new production facilities. These potential threats are always assessed by the Sustainability Committee who is responsible of bringing attention to these potential impacts. When an emerging regulation-based climate related potential risk is detected, it is forwarded to Enterprise Risk Management Coordination Committee Representative via "Risk Cards". ASELSAN management identified with a form the R&O's which have impact on Integrated Management Systems' performance. (IMS). This form is called AS-F-81-Environmental Risks and Opportunities Assessment Form. The climate related detailed R and O's are assessed based on the context of the company. In 2020, Draft National Climate Change Law, ETS regulation and institutional framework for a pilot ETS, development of the pilot ETS transaction registry, assessment of Article 6 Paris Agreement implications and options for Turkey were studied covering mid-term time period. The Sustainability Committee and the Early Detection and Management of Risk Committee reviews and finalizes all climate related risk analysis, and presents the critical risks that are assessed to be of high importance to the Board of Directors according to process and the scoring methodology defined in C 2.2 They also present a report to Board of Directors about the financial and operational measures that need to be taken by ASELSAN to prevent the occurrence of the identified risks. The Board of Directors decides which measures shall be applied and the evaluations are then reported to the Early Detection and Management of Risk Committee to be monitored and brought into action. Additionally when the relative significance of emerging regulation risks

		are identified and assessed by the strategic decision makers after a comparable structured review, they are itemized also as implementation plan within the scope of ISO 14001:2015 for a detailed management. Risk rating is classified as low, medium and high rate. When high rated climate related risks are identified, the action planning commence with the initiation of IMS department. Risk and Opportunities document is annually updated and reviewed with the collaboration of IMS Department and Enterprise Risk Management Coordination Committee Representative.
Technology	Not relevant, included	Substitution of existing products with lower emission options will not cause technology-based climate related risks for ASELSAN. There is a growing potential for low carbon technologies, like smart digital solutions, smart mobility, solar cells, insulation etc. for different sectors. Producing such technologies will enable ASELSAN to differentiate. In ASELSAN, every technologically developed product or service also serves an environmental and energy based transitional improvement and innovation. The Midas project is an example of this category and it is explained in opportunity 2. The potential is always assessed by the Sustainability Committee who is responsible of bringing attention to these potential impacts with the collaboration of research and development, production and other related departments. At company level major global and national risks that meet ASELSAN's risk management criteria are included in annual risk assessment reports. The Strategy Department in coordination with the Sustainability Committee is responsible of setting targets to reduce the impact of identified risks and making performance reviews. The Committee decides which risks and opportunities shall be reported to the Board of Directors according to process and the scoring methodology defined in C 2.2 These reports are presented to senior executives for subsequent follow-up.
Legal	Relevant, always included	Legal risks indicate increasing pricing of GHG emissions which could result in increased product prices. These potential threats are always assessed by the Sustainability Committee who is responsible of bringing attention to these potential impacts with the collaboration of production and other related departments. At company level low carbon products become more attractive for customers. This is an opportunity for ASELSAN which has the ability to produce technologies for low carbon products. The Strategy Department in coordination with the Sustainability Committee is responsible of setting targets to reduce the impact of identified risks and making performance reviews. The Committee decides which risks and opportunities shall be reported to the Board of Directors according to process and the scoring methodology defined in C2.2 These reports are presented to senior executives for subsequent follow-up.

Market	Relevant, always included	Market risks indicate increasing production costs due to changing input prices like materials, water, energy, etc. ASELSAN elaborates digital solutions for major defense industry companies in Europe and US. As a sub-contractor ASELSAN realizes the assessments about the effects of the products on climate change in order to be able to compete with the sector peers. These potential threats or opportunities are always assessed by the Sustainability Committee who is responsible of bringing attention to these potential impacts with the collaboration of production, purchasing, marketing and other related departments. At company level low carbon products become more attractive for customers. This is an opportunity for ASELSAN who has the ability to produce technologies for low carbon products. The Sustainability Committee decides which risks and opportunities shall be reported to the Board of Directors according to the scoring methodology defined in C 2.2 These reports are presented to senior executives for subsequent follow-up.
Reputation	Relevant, always included	Reputation risks indicate potential impacts associated with negative perceptions experienced by the public around ASELSAN's carbon performance. These potential threats are always assessed by the Sustainability Committee who is responsible of bringing attention to potential impacts with the collaboration of production and other related departments. The Sustainability Committee decides which risks and opportunities shall be reported to the Board of Directors according to process and the scoring methodology defined in C 2.2. These reports are presented to senior executives for subsequent follow-up. For the year 2021, the decision of presiding the Sustainability Committee by the Board Chair/CEO was made by the board executives. And the first meeting was executed in June 2021.
Acute physical	Relevant, always included	Acute physical risks indicate extreme weather events which can lead to higher operational costs due to supply chain disruption as described in Risk:4. These potential threats are always assessed by the Sustainability Committee who is responsible of bringing attention to potential impacts with the collaboration of production, utility and other related departments. The Sustainability Committee decides which risks and opportunities shall be reported to the Board of Directors according to process and the scoring methodology defined in C 2.2. These reports are presented to senior executives for subsequent follow-up.
Chronic physical	Relevant, always included	Chronic physical risks indicate changed precipitation and droughts patterns which can have negative impact on energy management in the facilities as described in Risk:3. These potential threats are always assessed by the Sustainability Committee who is responsible of bringing attention to potential impacts with the collaboration of production, utility and other related departments. The Sustainability Committee decides which risks and

		opportunities shall be reported to the Board of Directors according to process and the scoring methodology defined in C 2.2 These reports are presented to senior executives for subsequent follow-up.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased direct costs

Company-specific description

The Paris Agreement bears high future possibilities of additional regulations coming into force in the future. The last negotiations of Climate Summit concluded and focused on the “rule book” which will bring along the operation of the compliance matters. Turkey has submitted its Intended Nationally Determined Contribution (INDC) to UNFCCC as part of Paris Agreement and has committed to reduce its GHG emissions by 21% from the Business as Usual (BAU) scenario until 2030. This commitment is going to be revised by Turkish Government. The cap and trade principle which is the main solution of the EU's policy to combat climate change is adopted by EU-ETS. For the purpose to be ready to the future commitment, this system was taken in the agenda of Turkish Ministry of Environment & Urbanization. The phase 2 of PMR project studies with the World Bank sponsorship, started in 2019, and pilot workshops and practices focusing on different ETS designs were practiced. Pilot implementations will be realized between 2020-2021. In 2019, the MoEU in line with the PMR-TurkSim project objectives focused on the differences in outcome s and strategies across different ETS designs, with the participating companies. In these workshops $25/tCO2e was fixed as the optimum option of carbon price for Turkey.
For 2020 the price was chosen in the range of 30-50 €.

In a med-term time horizon this new system will have uncertainties which may result to pose some potential risks on ASELSAN such as; obligation to reduce the GHG emissions. Additional cost could be associated with "carbon pricing" resulting with an increase in operational cost. ASELSAN is not in the scope of MRV, but The National MRV regulation is likely to be revised; having the potential to bring additional emission quotas forcing our industry to face carbon cap allocation.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,726,460

Potential financial impact figure – maximum (currency)

4,544,100

Explanation of financial impact figure

The average carbon price in the was chosen 30-50 € per tonne for 2020.
ASELSAN's 2020 total Scope 1 CO2-e emissions were 14,689 tons. If we were in the context of MRV system, 10,098 tonnes of total Scope 1 verified emissions would be taken into account for ETS.
As carbon pricing figure, we used 30 -50 € in the calculations.
For med-term time horizon financial implication (2020 average currency: 1€=9 TL) ;
min 10,098*30=302,940 € (2,726,460 TRY)
max 10,098*50= 504,900€ (4,544,100 TRY) regarding to international cap & trade current system results.
This is the worst case scenario. But the impact could diminish after the energy efficiency projects which will be implemented in this period.

Cost of response to risk

200,000

Description of response and explanation of cost calculation

In order to manage this risk ASELSAN's Board chair assigned some sustainability committee members to participate the PMR meetings executed by the Ministry. This communication will prepare our company to this approaching system.
In 2020 the Energy Management System ISO 50001:2018 was set in our facilities. The

certification was realized in May 2021. The risk magnitude on our operations will be reduced by energy efficiency projects and activities. Therefore, this risk will be likely to have less impact on our OPEX even after the foreseen time horizon.

Comment

Cost of managing this risk is approximately 200,000 TRY, covering management activities' related expenses to frame up energy management system in our facilities.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Mandates on and regulation of existing products and services

Primary potential financial impact

Increased direct costs

Company-specific description

In ASELSAN one of the primary goals is to increase the activities as a subcontractor for major defense industry companies in Europe and the US by providing services in such a way that enables the company to contribute to the development of global defense industry. However, as the environmental regulation especially in Europe is more advanced than Turkey, soon ASELSAN may face product labeling requirements. Carbon footprint assessment of all the products that is planned to produce as sub-contractors of European and American companies may force the company to perform a more detailed and enhanced analysis of the systems, including assessing the environmental impacts of the products throughout the whole life cycle (i.e. a detailed LCA). ASELSAN may also need to comply with Eco-Labeling standards such as EPD in order to be able to export the products and systems to the US and Europe, which may force to make changes in product design to be able to compete with the sector peers.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

4,815,185

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

It is expected that these types of requirements will not exceed 0.5% of our OPEX. (ASELSAN Annual Report-2020 Financial Information section for OPEX details)

Cost of response to risk

500,000

Description of response and explanation of cost calculation

We closely follow the Environmental regulations in our target markets, and whenever we see that there is a need for such action, we will perform the related environmental analysis before it becomes a regulatory obligation.
ASELSAN is very meticulous in such actions and in the past many standards and reporting schemes such as ISO 27001, CDP, CMMI (Capability Maturity Model Integration) have been applied even before it was asked for by our clients. LCA thinking which is a evolving requirement of ISO 14001: 2015, is inherently in the concern of ASELSAN.

Comment

The cost may consist of acquiring consultancy and verification services regarding "Environmental Product Declaration". This cost of management was calculated for a same product family.
The Product Life Cycle System, expressed as PLM (Product Lifecyle Management), which can be considered one of the milestones for ASELSAN, is the most important part of ASELSAN's digital transformation included in the ASELSAN Strategic Plan for this purpose. PLM will prepare ASELSAN for the future by providing the infrastructure for the simultaneous engineering method that enables interactive and efficient work from design to production, from program management to integrated logistics support. Within the scope of the preparations initiated in this regard in 2020, ASELSAN PLM needs were analyzed and requirements were determined. The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical

Rising mean temperatures

Primary potential financial impact

Increased direct costs

Company-specific description

Featured in IPCC assessment reports our country is in a vulnerable location which could be impacted by extreme weather events. Our facilities may potentially be impacted by some big and sudden events due to extreme changes such as: Heat waves, floods, hail storms. This extreme precipitation could be cause to flood as seen as in recent years. There have been an increasing trend in Turkey's observed temperature and similarly in extreme weather events number since 1997. SCT 2015 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. Although rare, 2 dust storm and 4 tornado also occurred in 2015. (Ref: Climate Change Projections for Turkey: Three Models and Two Scenarios- Turkish State Meteorological Service.) According to obtained results based on RCP2.6 and RCP 4.5 the average annual temperature rising for 2016-2040 in Turkey is expected to vary between 1°C - 2°C. ASELSAN is located in Central Anatolia where it may face some significant impacts due to these conditions. Changes in temperature extremes will result in an increase in cooling demand in the summer period and heating demand in the winter period. The business continuity is ensured by the deployment of specific protection systems. This change may cause an increase in the energy expenses of the company.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

14,446,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

As the energy expenses constitute approximately 1% of our OPEX, this risk may increase our energy expenses. 50% rise will result in energy expenses to constitute

over 1.5% of our OPEX.
ASELSAN Annual Report- 2020 Financial Information section for OPEX details

Cost of response to risk

0

Description of response and explanation of cost calculation

In order to manage this risk, we priorities managing the assets in a way to prevent excessive energy consumption by enhancing building and infrastructure insulation to be able to optimize the energy consumption and reduce both cooling and heating demand to an optimum level. With these precautionary projects, ASELSAN tries to be better prepared to temperature extremes. The business interruption loss insurance is in place. Those risks are managed through our insurance process.

Comment

No monetary investments were made regarding managing this risk during the reporting period.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical
Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Featured in IPCC assessment reports our country is in a vulnerable location which could be impacted by extreme weather events. Our facilities may potentially be impacted by some big and sudden events due to extreme changes such as: Heat waves, floods, hail storms. This extreme precipitation could be cause to flood as seen as in recent years. There have been an increasing trend in Turkey's observed temperature and similarly in extreme weather events number since 1997. SCT 2015 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. Although rare, 2 dust storm and 4 tornado also occurred in 2015. (Ref: Climate Change Projections for Turkey: Three Models and Two Scenarios- Turkish State Meteorological Service). In this climate modelling study, it was tried to reveal the possibilities of future climate change for Turkey with the regional climate model. According to obtained results based on RCP2.6 and RCP 4.5 the primary climate risk driver may have impacts in the med- term. ASELSAN's main suppliers who are located in Central Anatolia may be exposed to

flooding risks which may cause business interruption in the supply system. Daily shut-off due to supplier activity disruption may occur and the shipment could be interrupted related to the risk assessed. The business interruption loss insurance is in place.

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)

68,822,456

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial impact figure is calculated based on sales or delivery figure of the impacted day.
The financial implication of a daily shut-off due to supplier activity disruption would not exceed 70 million TRY.
It is assumed that all suppliers located in Central Anatolia will be exposed to this risk for 1 day.
Calculation:(Revenues)16,140,454,759/234 (working days in 2020) = 68,822,456 (TRY)

Cost of response to risk

2,170,000

Description of response and explanation of cost calculation

The business interruption insurance is in place.
The cost is related with insurance premium value, covering only physical risk driver.
Those risks are managed through our insurance process.

Comment

Supplier and value chain engagement process is the management method of this risk driver. On a local level, we work on implementing more short- term solutions such as diversifying the supply chain. Activities to expand the ASELSAN Supplier Portal, which was put into use to ensure effective information exchange, have been established. Apart from this, supplier communication and development with our “Powerful Together"platform developed specifically for our suppliers, infrastructure works for moving our works to a single interface have been completed. The accurate risk

detection and assessment of our global suppliers located in vulnerable regions will be specified. And also, the criteria to evaluate the significant indirect emissions with their justification will be set-up. After August 2020, we conducted direct risk assessments on sustainability issues with our local companies and tried to support the improvement of their processes.
Hereafter these risk assessments will be fulfilled by the Supply Chain Management integrated to company wide assessments. It is planned that the risk assessment of 100% of the companies will be completed in 2023.

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation
Mandates on and regulation of existing products and services

Primary potential financial impact

Increased direct costs

Company-specific description

EU aims to be climate neutral in 2050, its efforts could be undermined by lack of ambition by EU's international partners. This would mean a risk of carbon leakage which occurs when companies transfer production to countries that are less strict about emissions. In such case, global emissions would not be reduced. The European Green Deal provides an action plan to boost the efficient use of resources by moving to a clean, circular economy; restore biodiversity and cut pollution; The EU Green Deal would counteract the risk of carbon leakage by putting a carbon price on imports of certain goods from outside the EU. Base on Green Deal- Carbon Border Adjustment mechanism, increased pricing on imported goods is considered a key regulatory-driven climate risk at ASELSAN.
"The New Climate Regime through the Lens of Economic Indicators" Report discusses the impacts of CBA on the Turkish industry with economic models. It was launched in September 2020, with the participation of the Minister of Environment and Urbanization and Chief Climate Negotiator. Base on 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. For ASELSAN the likelihood of a carbon border adjustment based tax is expected to have a long term effect on operational costs in the future. We closely monitor compliance with this emerging regulation and other critical climate policies. In the long term; increases in operational costs will directly affect the affordability of our products and our competitive position against EU industry peers. Supply chain costs will also be assessed after the sequel impact of the system.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

2,726,460

Potential financial impact figure – maximum (currency)

4,544,100

Explanation of financial impact figure

ASELSAN's Enterprise Risk & Sustainability team calculated the annual financial impact on an estimated carbon tax of €30/ton CO2e and €50/ton CO2e base on general balance model of "The New Climate Regime through the Lens of Economic Indicators" Report. A realistic forecast with existing EU-ETS system tax and Scope 1 emissions was included.
ASELSAN's 2020 total Scope 1 CO2-e verified emissions were 14,689 tons.
10,098 tonnes of total Scope 1 emissions base on EU requirements would be taken into account for ETS.
As carbon pricing figure, we used 30 -50€ in calculations.
For med-term time horizon financial implication (2020 average currency: 1€=9 TL) ;
min 10,098*30=302,940 € (2,726,460 TRY)
max 10,098*50= 504,900€ (4,544,100 TRY) regarding to international cap & trade current system results.

Cost of response to risk

0

Description of response and explanation of cost calculation

For the purpose to understand and manage this risk ASELSAN is taking action. In 2020 Enterprise Risk and Sustainability team directly applied estimated carbon taxes against verified emissions for 2020. This tax rate range is based on nationally approved "The New Climate Regime through the Lens of Economic Indicators" report. These cost interval will drive up overall costs for our products and impact affordability for our customers. The cost of responding to a specific affordability issue cannot be dis-aggregated from existing overhead expenditures, resulting in a disclosed value of "0" end of 2020.

Comment

Each climate-related risk category has been initially assessed by the ASELSAN's Enterprise Risk & Sustainability team. European Green Deal as a risk for Turkey may be considered as a new opportunity as a conversion tool aimed at sustainable development:
• Within the framework of a strategic transformation whose elements have been determined with determination,
• Emission reduction,
• Using the funds obtained for the green transformation of companies
• Focusing on renewable energy and energy efficiency
Thanks to an alternative Green Economic Transformation scenario, both in national income, It is predicted that significant improvements can be achieved in both greenhouse gas emissions.
• The green economic transformation in the national economy shows the emission reduction target can be achieved by increasing production and employment.

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

The development of the hybrid man-oeuvre locomotive development project, is considered to be an opportunity due to the development of the railway infrastructure and the privatization of the rail vehicle transportation services in the upcoming period. The

hybrid man-oeuvre locomotive uses battery and diesel generator power supplies. The use of a battery enables the use of a diesel generator operating in a smaller and more efficient area as it provides advantages in terms of vehicle usage scenarios. The battery can be charged externally without using the diesel generator, as well as thanks to the regenerative energy that emerges during the braking of the vehicle. In this way, the braking energy to be wasted can be recovered. All this results in lower fuel consumption and thus lower CO2 emissions. In addition, operating and maintenance costs are reduced thanks to the short running time of the diesel generator and the use of a low number of brakes. In 2020, in accordance with the signed contract, the development and prototype production of the train control and monitoring system developed for the national train was carried out; customer acceptance activities have been completed. In addition, hardware production of the train control and management system developed for the Hybrid Maneuvering Locomotive project was carried out.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

67,500,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The estimated sales price of a vehicle that will enter serial production is around 1,500,000 Euro. The systems given by ASELSAN for the vehicle are close to 50% of the total price. The current negotiations are carried out on the sale of 10 vehicles. The data is fixed by estimation. The potential financial impact for the short term time horizon is around
750,000 €*10*9 = 67,600,000 TL (Currency 2020 1€=9TL)
For the long-term time horizon: It is evaluated that approximately 80 of these products can be sold domestically. It is expected that ASELSAN will earn over 60,000,000 Euros.

Cost to realize opportunity

54,000,000

Strategy to realize opportunity and explanation of cost calculation

The total cost of the project is approximately 6,000,000 Euros (6000000*9= 54,000,000TL in 2020)
In order to turn this project into an opportunity, more than 2 years of self-employed R&D project has been carried out in ASELSAN. During the project period, ASELSAN-UGES processes needed were implemented (project management, system, hardware and software development, subcontractor management processes, etc.)

Comment

The ERCI Innovation Awards, organized for the sixth time this year by the European Railway Clusters Initiation (ERCI), evaluate the leading innovation projects of European railway industry companies and reward the best selected projects. Developed by ASELSAN, MIDAS-R ERCI was nominated for the Innovation Awards in 2020. ASELSAN was deemed worthy of the “Best Large-Scale Company” Award with MIDAS-R.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

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

ASELSAN MIDAS Intrusion Detection System offers the utmost capability of sensing by measurement at thousands of different points simultaneously with a fiber optic communications cable. Using the pr-existing fiber optic cable, the system locates, classifies and tracks activities/threats against valuable assets. It is ideally suited for monitoring pipelines for third-party intrusion detection, and this is the initial target for the technology. However, in addition to pipelines, recent developments allow technology to be used in leak detection and security of borders, critical facilities, railway lines and infrastructure lines (gas, water etc.) in cities. MIDAS provides early warning of an event before damage occurs while intelligently filtering non-threatening activities. Using Artificial Intelligence (AI), tailor-made algorithms analyze environmental factors and apply the parameters that give the best performance with minimum nuisance alarms. MIDAS (AI) is patented first time in the market place and being used in the pipeline and border security application for years. This project's timeline was between 2016-2019. It started to bring substantive opportunity to ASELSAN in terms of revenue.
The product has started to be used in many projects and related patent has been obtained in 2020. System installations are in progress.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,618,470,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The financial contribution to ASELSAN as Total Revenue for the period 2017-2027 is ; 220.500.000 $
(1,618,470,000 TRY, based on 2020 average currency, 1$=7.34 TL), for the same time horizon the financial contribution to the government and pipeline enterprise is 420.840.000 $, covering prevention of illegal tapping and pipeline damages.
Revenue (2017-2019): 8,750,000 $
Total number of MIDAS Units Sold = 50; Approx. Unit Price = 175,000 $
Revenue 3 Year period forecast (2020-2022) = 36,750,000 $
Forecast number of units to be sold per year; 50+60+100=210; Approx. Unit Price = 175,000 $
Revenue 2023-2027 period forecast = 175,000,000 $

Cost to realize opportunity

36,438,520

Strategy to realize opportunity and explanation of cost calculation

The product has started to be used in many projects and related patent has been obtained in 2020.
MIDAS secures critical infrastructures such as petroleum and gas pipelines, and detects illegal tapping and intrusions caused by the thieves and terrorist groups. Furthermore, farmers' routine activities can also cause accidents on the pipelines and might generate unexpected damage on infrastructure and the environment as well. When a damage happens on a pipeline, entire operation halts, damaged pipelines are repaired, and the damaged pipeline segment can cause a reduction in the life-time of the entire pipeline segment. Additionally, MIDAS can be used in detecting of unauthorized digging and construction works in urban areas. Those unauthorized activities can cause serious damages on the gas and water pipelines of the cities. Using MIDAS, those activities can

be detected, enabling operators to quickly intervene in to the intrusions. Consequently, serious damages, operation halts, gas or water leakages and related explosions of gas pipelines can be prevented before the incident. Most of the time, oil leakages occur after tapping and thieves steel large gallons of crude oil with trucks. Considering all these cascading impacts, any single intrusion causes a huge significant financial loss for both governments and enterprises. As financial contribution to ASELSAN, the Project Cost is 4.978.000 $. Environmental impact needs to be calculated for each incident on the pipeline.

Comment

MIDAS prevents possible direct environmental hazards such as; Fires, Crude oil leakage causing destroyed farm fields, damaged habitats and forestry, carbon & poisoning gasses emission, other (public resistance etc.)

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

As climate change is one of the biggest challenges the humanity has faced, consumers are becoming more and more environmentally aware. At company level low carbon products become more attractive for customers. This is an opportunity for ASELSAN who has the ability to produce technologies for low carbon products.
Activities have been carried out to develop innovative and original technologies which will provide an efficient and uninterrupted supply of electricity from Turkey's extensive renewable energy resources, specifically aimed at solar and wind energy. Critical components have been developed with the maximum national means in order to provide a competitive advantage in micro grid base hybrid renewable energy system solutions.
In the field of wind energy, the design, development and production processes of full-scale wind energy power converter systems and power grid connection algorithms, which are required by wind turbine manufacturers, have been completed.
In the field of photovoltaic solar energy, collaboration with METU GÜNAM and TUBİTAK is in progress. In 2020, by carrying out R&D and design activities, 250 kW array type photovoltaic inverter prototype production has been completed. Also, UPS agreement with the manufacturer has been signed.

For the development of hybrid renewable energy micro grid system, Equity-supported R&D project was initiated and R&D cooperation was made with METU-KKK in this area.

Time horizon

Short-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)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Financial implications of these projects are evaluated. They have the potential to increase our revenue in the med-term. The financial figures are sensitive data. Specific confidentiality constraints prohibiting the disclosure.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

ASELSAN's Technology Road Map and Investment Plan is created in line with ASELSAN's Strategic Plan having detailed plans on each technology area (including climate friendly technologies) that will be researched and developed in the next 5 years along with the required investments." The progress of this plan is monitored every year and used as a measure in corporate performance.

In 2018, ASELSAN actively followed a policy that would ensure maximum efficiency and profitability while seizing new opportunities offered by the latest technologies. Research and Development activities for new climate friendly product groups are currently being analysed and planned for implementation such as electric vehicles to be used for public transport as well as portable hybrid electricity generation system using renewable energy sources. We are already on the process of extending our product line to include renewable energy sources' implementation.

Therefore, the time frame of this opportunity is well performed as we can already project an increase in our revenue. And in 2019, the company improved the competitiveness by upgrading current technologies and by introducing innovative, environmentally-friendly and energy efficient systems and products. In 2020 the collaborations were in progress.

Hybrid energy system solutions that provide reliable, economical and clean energy from sun and wind continued to be produced. Producing new and more climate friendly products is a good opportunity for the company to gain new markets.

Comment

The Research and Development activities we hold as part of this opportunity has third parties involved to this subject. Within the scope of the joint studies carried out with GÜNAM at METU (Middle East Technical University), production infrastructure has been completed and prototype IBC solar cells have been manufactured. Specific confidentiality constraints prohibiting the disclosure (cost to realize opportunity) .

Identifier

Opp4

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

ASELSAN’s Technology Road Map and Investment Plan is created in line with ASELSAN’s Strategic Plan having detailed plans on each technology area (including climate friendly technologies) that will be researched and developed in the next 5 years along with the required investments.” The progress of this plan is monitored every year and used as a measure in corporate performance. ASELSAN has the ability to produce technologies for low carbon products/ services.

ASELSAN, as the leading Turkish company in toll collection systems, has carried out intensive work in this field in 2018 as well. On the Istanbul-Izmir Highway, Yavuz Sultan Selim Bridge and Northern Ring road, along the newly opened road sections, new toll collection stations have been added to the existing tolling systems. The toll collection system for the new ambitious Northern Marmara Highway is provided by ASELSAN. With the establishment of 16 new MLFF systems on the newly built roads of cities in 2019, the cumulative average vehicle speed on the roads where the wage was collected increased by 9%. In this way, there is no increase in CO2 emission in these new roads due to fee collection.

In 2020, new highway toll collection systems were established to cover the Northern Marmara Highway and the Ankara Niğde Highway, and a contract was signed for the Çanakkale 1915 highway and works were started to be established in 2021.

Vehicles of interest are identified and tracked throughout different system locations. MLFF system that allows highway users to pass through tolling point at high speed even

when changing lanes without having to slow down to pay for toll. Congestion at MLFF is decreased at about %21 according to toll plazas. MLFF system reduce congestion rate at the Toll Plazas by increasing vehicles' throughput at more than 1500 vehicles per hour. The research shows that the average delay of vehicle is 13 seconds per vehicle per km (comparing to the MLFF). In general, higher penetration rates give better results in term of emission reductions. On the highway road, modeled benefits at the macro level are 1.5% reduction in CO2 emissions for a %20 penetration rate, 4.5% reduction in CO2 emissions for a %60 penetration rate, 6.5% reduction in CO2 emissions for a %90 penetration rate. Thus, MLFF improve public transportation and help to reduce air pollution, NOx and CO2 and road noise via a decline in traffic.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Financial implications of these projects are evaluated. They have the potential to increase our revenue in the short-med and long-term. The financial figures are sensitive data. Specific confidentiality constraints prohibiting the disclosure.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

Toll Collection Systems have been developed to maximize performance and expanded to cover all private and state highways in Turkey in 2020.
Research and Development activities for this system is analysed and planned for the implementation Therefore, the time frame of this opportunity is well performed as we can already project an increase in our revenue. The activities for this important tolling project have continued in 2020 as well. The actions to be taken in order to manage this opportunity will consequently cause an increase in our OPEX in the first place. ASELSAN Annual Report-2020 Financial Information section for OPEX details)

Comment

The Research and Development activities we hold as part of this opportunity has third parties involved to this subject. In addition to securing tolls for the constructed highways, ASELSAN toll collection systems also play an important role in the revenue reconciliation and auditing of private concessions by state institutions. For this task, special solutions were developed in order to provide security, integrity, trace-ability and control-ability of the data recorded in the system.

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Use of public-sector incentives

Primary potential financial impact

Increased diversification of financial assets

Company-specific description

By following up on all kind of technological developments pertaining to land, air, naval and aerospace platform product/system technologies, the Company not only applies technology but also designs, develops and produces product/system technologies in order to share or sell with/to national and international collaborations.
Projects are striving at maximum level in order to benefit from the technological opportunities existing in the country aiming to increase the national contribution share. For this purpose, cooperation is made with universities and various R&D organizations and importance is given to the use of local suppliers and subcontractors.
As for the projects carried out within the Group, the Research and Development incentive in compliance with the provisions of the Law on Corporate Tax numbered 5520 and Research and Development center application pursuant to the Law regarding the support of Research and Development activities numbered 5746 are being implemented together. As for non-public R&D projects, the approval of TEYDEB (Technology and Innovation Support Programs Directorate) and ARDEB (Research Support Programs Presidency) are received and supported by the institutions. Turkey’s 10th Development Plan includes multi programs on different incentives including R&D projects such as Enhancing Energy Efficiency etc. ASELSAN has a chance to benefit from governmental incentives in the scope of this program.

Time horizon

Short-term

Likelihood

Very 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)

29,513,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

The incentive obtained consists of the incentives that are accrued in accordance with TÜBİTAK's R&D recognition letter prepared with respect to the Group's ongoing projects Current government total grants and incentives 2020 Annual Report ; 29,513,000 TL. This figure represents the total grants covering also climate related ones.

Cost to realize opportunity

0

Strategy to realize opportunity and explanation of cost calculation

We don't have any cost regarding the management of this opportunity, we strictly monitor the incentive programs and apply to the ones that are related to our scope of business.The Group obtains capital support from "Support and Price Stabilization Fund" of Central Bank of Turkey via Under secretariat of Foreign Trade's consent. The Scientific and Technological Research Council of Turkey ("TÜBİTAK") and Technology Development Foundation of Turkey ("TTGV") act as intermediary in accordance with Communique No:98/10 published by the Money-Loans and Coordination Board.
In accordance with Law on Technology Development Zones numbered 4691, Group utilizes withholding income tax incentive, social security premium incentive and stamp tax exceptions.

Comment

Such incentives are utilized through not paying withholding income tax incentive, social security premium incentive and stamp tax exceptions calculated based on research and development and software personnel payroll. According to Article 8 of the relevant law, all research and development expenses can be deducted until the determination of commercial earnings until 31 December 2023.

Identifier

Opp6

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Other, please specify

Special need for public health

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

ASELSAN’s Technology Road Map and Investment Plan is created in line with ASELSAN’s Strategic Plan having detailed plans on each technology area (including climate friendly and health technologies) that will be researched and developed in the next 5 years along with the required investments.” The progress of this plan is monitored every year and used as a measure in corporate performance. ASELSAN is agile to produce and to align new technologies related with public health and low carbon products/services. ASELSAN aims to use its technological knowledge in the field of health systems. In this respect, studies on medical devices which are critical to the diagnosis and treatment are carried out. Activities in the field of medical devices are grouped under three main headings: medical imaging, life support and diagnostic systems.

In the field of diagnostic systems, it is aimed to develop diagnostic kit and diagnostic devices (Point of care, decentralized testing) that allow rapid detection of certain diseases caused by viruses and bacteria in primary care institutions, and patient self-testing that allows personal use. In this context, the Bio defense Research Program Unit, which started its activities in ASELSAN Research Center in 2016, continued its activities in 2019 with an increasing speed. R&D studies have been initiated to develop an optical based diagnostic system for biological agent detection. With the research and development activities to be carried out in the coming years, it is aimed to develop a "Virus Diagnosis Kit" for different types of viruses. ASELSAN conducts these activities in the Research Center located in Istanbul Techno park in order to benefit from the Istanbul-Kocaeli Eco-system.

For the development of optical-based biosensors, the production and testing of harmless antigens of biological agents and antibodies to specifically recognize these agents continued in cooperation with Gebze Technical University, in 2020.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Financial implications of this project are in the evaluation phase. They have the potential to increase our revenue in the med-term.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

The cost to realize this opportunity has been investigated. Public health has a priority for our company.

Comment

ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework.
As of the end of 2020, new contracts/orders worth USD 1.3 billion were signed, ASELSAN's backlog for the coming years is at the level of 9.5 billion USD.
Classification related to climate cannot be realized due to product diversity and difficulties in differentiation. After serial production the % revenue of these products will be identified as sales figures.

C3. Business Strategy

C3.1

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

Yes

C3.1b

(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?

	Intention to publish a low-	Intention to include the transition plan as a	Comment

	carbon transition plan	scheduled resolution item at Annual General Meetings (AGMs)	
Row 1	Yes, in the next two years	Yes, we intend to include it as a scheduled AGM resolution item	At the last quarter of 2020, the Company's Board announced its intention to put an ambitious emissions reduction targets by 2050 and the enthusiasm to achieve them by a Climate Transition Action Plan. The planning and other actions will be discussed and developed during 2021-2022. We believe that early action to ensure reductions in emissions will lead to a more innovative technology where climate related opportunities will drive the company to a more competitive business.

C3.2

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

Yes, qualitative and quantitative

C3.2a

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

Climate-related scenarios and models applied	Details
2DS IEA 450 RCP 2.6 RCP 4.5	ASELSAN is committed to "determining climate change risks and managing them in the light of legislation, monitoring and transparently reporting greenhouse gas emissions in order to reduce the effects of global climate change, carefully monitoring the sustainability programs developed in the national and international fields regarding the environment, and creating the added value for sustainability at the highest level". According to the 2020 Global Risk Report published by the World Economic Forum, the most important risks evaluated according to probability and impact level are; Extreme air pollution caused by climate change, failure to combat climate change, natural disasters, loss of biodiversity and man-made environmental disasters. The TCFD recommendations are always our guidance. In the reporting year ASELSAN evaluated the risks and opportunities base on climate related scenarios and models by using the public data. During the reporting period in 2021, we used the Knowledge Portal of World Bank-Turkey by exploring also country base impacts. Some reassessments have been realized base on related portal. https://climateknowledgeportal.worldbank.org/country/turkey/climate-data-projections.

	The RCP 2.6 (Low emission) and RCP 4.5 (Med- Low Emission) have been assessed. The historical monthly temperature for Turkey (1986-2005) was observed. The scenarios used extend 2060-2079 time period with different variables at the ensemble model chosen. Projected Change in Monthly Temperature of Turkey for 2060-2079 (Compared to 1986-2005) was observed. The assumed growth rates in annual revenues and our ability to reduce our scope 1&2 CO2e emissions have been evaluated. In the transition side; the IEA 450 and 2DS scenarios have been studied as qualitative analysis. The results will influence the preparation of our carbon transition plan for the next two years. At the end of these evaluations, it was concluded that an ambitious carbon reduction goal setting would be more effective to stabilize global temperature increase below 1.5 degrees C. In line with the responsible and effective management of the resources it uses, ASELSAN received the strong support of the Senior Management in the implementation process of the ISO 50001:2018 Energy Management System, which is a management approach that considers the conscious and efficient use of energy in its activities. In this context, in 2020 necessary preparations with the Energy Management System infrastructures have been completed in all campuses and Certification was accomplished in May 2021. Energy management activities are carried out on the basis of processes/production, purchasing processes and in parallel with other integrated management systems. The targets for reducing energy intensity determined within the scope of the strategic plan are provided by the units responsible for the management of the existing energy infrastructure in the campuses. In this direction, efficiency studies are carried out, especially on energy-consuming resources, and the data obtained are evaluated through analyzers and software systems. In addition, with the studies and improvements, areas related to the Efficiency Increasing Project (VAP) studies were determined, and planning and investment projects were initiated. Reducing emissions, which is a natural result of efforts to reduce energy intensity, is also considered within the scope of the same targets.

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	ASELSAN aims to be a responsible producer for a globally responsible consumption. Our strategy covers also to be one of the main producers of renewable energy technologies in

		the World. Substitution of existing products with lower emission options does not cause technology base climate related risks. There is an increased demand for new low carbon technologies, materials, products and services such as smart digital solutions, smart mobility, solar cells, insulation etc. for different sectors. The most important aspect of climate change influencing our strategy is the opportunity to develop a green business. As transportation related GHG emissions account for nearly 14% of Turkey's total emissions, it is aimed to supply necessary electric vehicle systems designed for public transportation of major municipalities in Turkey. The Electric Vehicle Systems Program Management Department started a project with TEMSA in March 2015 with the aim of producing the first domestic electric bus. In 2019, development, production and testing activities for electric vehicle system components were developed for use in civil and military platforms; In line with the expectations of the automotive industry, our mass production capabilities have been developed and effective cost management processes have been operated to meet expectations. The first TEMSA with ASELSAN electric traction system Avenue EV 12 mt. Electric Buses series in 2020 came off the production line. ASELSAN focuses on developing hybrid system where both solar and wind power sources can be used interchangeably. While conducting such activities, ASELSAN aims to develop that the hybrid system could be portable and can be used both on-grid and off grid. The new system will reduce the use of diesel back-up generators and result in energy consumption reduction and therefore GHG emissions. In 2019, approximately 40 units of hybrid energy source installation have been completed on site. As a total 80000 L fuel consumption reduction was realized. Hybrid Micro Grid System Project to be established in METU Kalkanlı Technology Valley in order to meet the energy needs of TRNC with the highest level of renewable energy has been initiated in the reporting year. These projects are the most important business decisions executed during the mid-term period and have high impacts on the business strategy of 2020 and beyond.
Supply chain and/or value chain	Yes	Activities to expand the ASELSAN Supplier Portal, which was put into use to ensure effective information exchange, have been completed. Apart from this, supplier communication and development with our "Powerful Together Platform"

		developed specifically for our suppliers, infrastructure works for moving our works to a single interface have been completed and put into practice in the first quarter of 2020. In 2020, as a smooth transition to the new ISO 14064: 2018 Standard, and also in order to understand and manage the financial and temporal burdens of the supply and value chain management, the New Procurement Management Process was initiated with internal and external communication and data gathering activities. This process was effective at the end of 2020. Energy Efficient Purchasing Procedure was established for procurement activities. With the studies carried out in this context, taking into account energy efficiency at the procurement stage with process innovations such as integration and minimization of logistics activities, emphasis on environmentally friendly technologies in the selection of machinery / equipment, etc. applications are activated. It is planned to create some indicators in the upcoming period in order to monitor and report the outcomes to be achieved. Within the supplier risk management activities and new rewarding system, the accurate risk detection and assessment of our global suppliers located in vulnerable regions were facilitated. In 2020, it was determined that the weight of suppliers' risks within the scope of ESG in total risks is 12%. With these efforts, a transition to LCA activities will be provided while strong and stable data source will be ready for an ambitious target setting.
Investment in R&D	Yes	The most important aspect of climate change that influences our strategy is the opportunity to develop a green business. More and more public or private institutions and companies in Turkey depend on ASELSAN for their high-tech system requirements. Studies are carried out to develop innovative and unique technologies that will provide efficient and uninterrupted electricity production from solar and wind energy, one of the rich renewable energy sources of our country. Critical components are developed with maximum national possibilities to provide competitive advantage in renewable energy system solutions. • In the field of wind energy; full scale wind power plant's power converter systems and grid connection algorithms required by wind turbine manufacturers, especially domestic companies; design, development and production processes have been completed. In 2020, within the scope of Alaçatı Wind Power Plant Modernization, work on the development of a wind turbine platform with a minimum capacity of 4.0 MW

		was initiated. • In the field of photovoltaic solar energy, studies carried out jointly with METU GÜNAM continued with the collaboration of Tubitak in 2020. • Hybrid Micro Grid System Project to be established in METU Kalkanlı Technology Valley in order to meet the energy needs of TRNC with the highest level of renewable energy has been started in 2020. ASELSAN aims to spend approximately 7% of the annual turnover to its Research and Development activities financed with its own resources. In addition, it allocates a share of approximately 2% of its turnover every year for technological investments that support innovation. Over 5000 employees work in the 6 R&D Centers within ASELSAN. ASELSAN has over 150 internally financed R&D projects that comprise both ongoing projects and those launched in new fields. In 2020 the total R&D expenditure was 3.4 billion TRY, a 12,5 % increase was detected compared to previous year. The investment in R&D will continue due to these emerging opportunities. The Group activates the development costs of the projects it has created and approved by the management. Compared with previous reporting year non-defense revenue growth rate is 81%. In the long-term the area has the highest positive impact on the company business and strategy.
Operations	Yes	The operational risks are assessed by the company by taking into account energy saving, potential and possible optimization points in the production and other activities. In line with the responsible and effective management of the resources it uses, ASELSAN received the strong support of the Senior Management in the implementation process of the ISO 50001:2018 Energy Management System, which is a management approach that considers the conscious and efficient use of energy in its activities. In this context, in 2020 necessary preparations with the Energy Management System infrastructures have been completed in all campuses and Certification was accomplished in May 2021. Energy management activities are carried out on the basis of processes/production, purchasing processes and in parallel with other integrated management systems. Although we are not yet influenced by the regulatory changes in Turkey, it is also another aspect of climate change, as we prefer precautionary to be prepared to the changes in regulation. Carbon pricing systems (as disclosed in C 2.3 a Risk 1) is on the rise and could result by an increase in

		operational costs for our company for the log-term period, but currently ASELSAN is not in the context of MRV system. As part of the most important component of our strategy regarding climate change, due to efficiency of our carbon reduction projects , in the reporting period we have revised our target's percentage reduction from base year, from 4.7 % to 78.71%. Other physical risks are assessed for our facilities and services. The insurance system is in place to ensure the business continuity. This area could have a low impact on the companies' business strategy and planning. As usual our Renewable Energy Systems Program Management Department, which is responsible of R&D of renewable energy technologies, facilitates on deploying renewable energy usage throughout our facilities and products. In 2020, ASELSAN continued to follow a policy that would ensure maximum efficiency and profitability while seizing new opportunities offered by the latest technologies.

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 Capital allocation	Climate change poses an opportunity for ASELSAN to develop more low-emissions goods and services. This would likely impact the projected revenue in the future that ASELSAN aims to be one of the main producers of renewable energy technologies in Turkey. Due to emerging opportunities to develop low-emission goods and services the investment in R&D will continue. In the reporting year, the total expenditure on R&D activities was 3356 million TRY, the previous year was 2975 million TRY. In 2020, ASELSAN actively followed a policy that would ensure maximum efficiency and profitability while seizing new opportunities offered by the latest technologies. We have the opportunity to increase our revenue by answering the expectations of the automotive industry, our mass production capabilities have been developed and effective cost management processes have been operated to meet expectations. In addition to the development activities carried out with TEMSA and ANADOLU ISUZU, the sale of electric vehicle systems to BMC has started. Electric Bus deliveries was completed in 2020

		ASELSAN has over 100 internally financed R&D projects that comprise both ongoing projects and those launched in new fields. Acceptance and delivery of products developed for the National Train continued in 2020. An energy management system has been developed for hybrid maneuver locomotive developed with TCDD TAŞIMACILIK and TÜLOMSAŞ to store braking energy, to achieve emission-free operation in a closed environment, to reduce the noise level and to provide fuel savings. Next year, we will continue to improve our competitiveness by upgrading our current technologies and by introducing innovative, environment-friendly and energy efficient systems and products. The revenue will positively and highly be impacted by the financial planning which includes long-term capital allocation, investment, R&D. Climate related operating costs are factored into our financial planning process which includes long-term capital allocation, investment, R&D and other standard costs. In the long-term the operating costs could be impacted to be overall low to medium through the financial planning which includes manufacture, human and social capital. Climate-related risks and opportunities are factored into our capital expenditure planning process. In case of any capital expenditure or allocation we consider implementing efficient technologies compatible to reduce the magnitude of climate related potential risks. It is also an opportunity to reduce the costs. While making an investment decision both for a new production facility, a capacity increase (Gölbaşı expansion project) we consider installing the most efficient technologies in order to reduce the risk of high operating costs. In the long-term the capital expenditure/capital allocation could be impacted to be overall low to medium through the financial planning.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

C4. Targets and performance

C4.1

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

Intensity target

C4.1b

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

Target reference number
Int 1

Year target was set
2016

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (location-based)

Intensity metric
Metric tons CO2e per unit revenue

Base year
2016

Intensity figure in base year (metric tons CO2e per unit of activity)
0.0000136242

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure
100

Target year
2022

Targeted reduction from base year (%)
81.89

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]
0.0000024673

% change anticipated in absolute Scope 1+2 emissions
31.54

% change anticipated in absolute Scope 3 emissions
236.27

Intensity figure in reporting year (metric tons CO2e per unit of activity)
0.00000354

% of target achieved [auto-calculated]
90.3856673661

Target status in reporting year
Revised

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

Target ambition

Please explain (including target coverage)

100% of emissions in scope are covered in this target. As a consequence of the effectiveness of our ambitious carbon reduction projects, we revised this target's % reduction from base year; from 4.7% to 81.89% last year.
There will be an increase in the absolute emissions in the following years as a consequence of our growth and expansion projects. The increase in the absolute emissions will be at minor level compared to our growth in all business dimensions.
Our intensity figure at base year was 0.0000136242721473774
Our intensity figure 2017 is 0.0000107911449051455
Our intensity figure 2018 is 0.00000637280616616315
Our intensity figure 2019 is 0.00000399107377208420
Our intensity figure 2020 is 0.00000353995981718683
Our intensity figure 2021 will be 0.00000287591813079314
Our intensity figure at target year will be 0.00000246753064029772
In the following years there will be a continuous increase at % achieved till target year.
Our revenue and GHG emissions reduction target is monitored and revised regularly. However, we can only share our projected revenue growth in 1-year forecast periods. We consider our revenue projections over 5 years as commercially sensitive data. Specific confidentiality constraints prohibiting the disclosure.
The reason of increase in % change anticipated in absolute scope 3 emissions is the extension of the boundary within the scope of compliance with the new version of ISO 14064:2018.
The criteria to evaluate the significant indirect emissions with their justification will be set-up by the transition to the new version of ISO 14064:2018. The boundary setting and assumptions related to supply and value chain emissions will be accurate, leading us to set a clear-cut new base year. With these efforts, a transition to LCA activities will be provided while strong and stable data source will be ready for Science Based Target setting.

C4.2

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

Other climate-related target(s)

C4.2b

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

Target reference number

Oth 1

Year target was set

2019

Target coverage

Product level

Target type: absolute or intensity

Absolute

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

Target denominator (intensity targets only)

Base year

2019

Figure or percentage in base year

1

Target year

2030

Figure or percentage in target year

80

Figure or percentage in reporting year

1

% of target achieved [auto-calculated]

0

Target status in reporting year

Underway

Is this target part of an emissions target?

This is a product level target having a use phase influence as avoiding third party's emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

The product produced is a rail vehicle in the hybrid maneuver locomotive category. The vehicle features a modern TCMS (train control and management system), advanced traction control algorithms, IGBT and SiC-based energy-efficient power and control

materials, and liquid-cooled Li-ion battery technology. With these features, the product has a modern design that is more efficient in terms of energy consumption, quieter in terms of noise and greener in terms of emissions.
Vehicle is developed with the support of Tülomsaş and other subcontractors for its needs.
It is evaluated that approximately 80 of these products can be sold domestically by 2030.

Target reference number

Oth 2

Year target was set

2019

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

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

Target denominator (intensity targets only)

Base year

2019

Figure or percentage in base year

0.68

Target year

2030

Figure or percentage in target year

0.83

Figure or percentage in reporting year

0.79

% of target achieved [auto-calculated]

73.3333333333

Target status in reporting year

Underway

Is this target part of an emissions target?

It is a different target being a part of a project called zero-waste project

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

This target covers the wastes segregated from ASELSAN's campuses.
As part of the zero-waste project, 68% of the waste collected in 2019 was recycled and 32% was sent to landfill. This value is targeted to increase by 15% in 2030, reaching a total of 83% recycling rate.

Target reference number

Oth 3

Year target was set

2019

Target coverage

Site/facility

Target type: absolute or intensity

Absolute

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

Target denominator (intensity targets only)

Base year

2019

Figure or percentage in base year

0

Target year

2025

Figure or percentage in target year

2

Figure or percentage in reporting year

0

% of target achieved [auto-calculated]

0

Target status in reporting year

Underway

Is this target part of an emissions target?

It is not a part of an emission target. There will be an indirect decreasing impact on facilities emissions.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

The decision to build two Gold Certified Leed buildings for Istanbul Teknokent and for Macunköy Plaza is about to come out.
If approved, it is planned to start in 2021 and complete in 2025. Macunköy Plaza Building project has a priority.

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	5	750
To be implemented*	2	300
Implementation commenced*	1	150
Implemented*	7	363.64
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)
3.11

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
20,000

Investment required (unit currency – as specified in C0.4)
9,600

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
In the field of UGES breathing apparatus production, the ranyand system has been air-conditioned with an air handling unit instead of LPG.
In this way, a saving of 1,080 kg/year was achieved. The emission reduction achieved as a result of this savings is 3.11 tCO2e.
Reporting year's GHG calculation was verified by the third party

Initiative category & Initiative type
Energy efficiency in buildings
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
252.11

Scope(s)
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
285,322

Investment required (unit currency – as specified in C0.4)
186,500

Payback period
<1 year

Estimated lifetime of the initiative

6-10 years

Comment

With the LED lighting transformation, fluorescent bulbs were replaced with led tube bulbs throughout the campus. In this way, 540,895 kWh/year savings were achieved. The emission reduction achieved as a result of this savings is 252.11 t CO2e.
Reporting year's GHG calculation was verified by the third party

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)

55.93

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

60,000

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

600,000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

Free-coiling system has been installed on the cooling group line in building no. 55. In this way, 120,000 kWh/year savings were achieved. The emission reduction achieved as a result of this savings is 55.93 tCO2e.
Reporting year's GHG calculation was verified by the third party

Initiative category & Initiative type

Energy efficiency in buildings
Building Energy Management Systems (BEMS)

Estimated annual CO2e savings (metric tonnes CO2e)

27.97

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

90,000

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

30,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Humidification system has been changed in HBT production. In this way, 60,000 kWh/year savings were achieved. The emission reduction achieved as a result of this savings is 27.97 tCO2e.
Reporting year's GHG calculation was verified by the third party

Initiative category & Initiative type

Energy efficiency in production processes
Smart control system

Estimated annual CO2e savings (metric tonnes CO2e)

23.49

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

25,200

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

0

Payback period

<1 year

Estimated lifetime of the initiative

6-10 years

Comment

Shutdown of air handling units and chillers in building no. 55 between 21:00 and 04:00. In this way, 50,400 kWh/year savings were achieved. The emission reduction achieved as a result of this savings is 23.49 tCO2e.
Reporting year's GHG calculation was verified by the third party

Initiative category & Initiative type

Company policy or behavioral change
Resource efficiency

Estimated annual CO2e savings (metric tonnes CO2e)

1.03

Scope(s)

Scope 3

Voluntary/Mandatory

Voluntary

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

41,250

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

55,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Manual faucets in all toilets have been replaced with photocell faucets. In this way, 3,000 m3/year savings were achieved. The emission reduction achieved as a result of this savings is 1.03 tCO2e
Reporting year's GHG calculation was verified by the third party

C4.3c

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

Method	Comment
Financial optimization calculations	In ASELSAN, we constantly try to develop projects that increase energy efficiency. When we have a project idea, the related directorate makes a detailed feasibility analysis that shows how much investment is required for a certain project and how much savings (both in terms of energy and financial

	savings) can be achieved with that particular project. If the payback period of the project is below 5 years and if the project lifetime is over 10 years, a report is prepared and the project is submitted for budget approval. Then this project is included in the budget plans for the upcoming year. Previous years' GHG emission target revision was materialized by Integrated Management Systems Department for the strategic planning covering the period 2018-2022. It is explained with details, in section 4.1 b
Dedicated budget for low-carbon product R&D	ASELSAN aims to be a responsible producer for a globally responsible consumption. 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 such as smart digital solutions, smart mobility, solar cells, insulation etc. for different sectors. ASELSAN aims to be one of the main producers of renewable energy technologies and low carbon products in Turkey in the mid- term. The Electric Vehicle Systems Program Management Department started a Research and Development project with TEMSA in March 2015 with the aim of producing the first domestic electric buses. As transportation related GHG emissions account for nearly 14% of Turkey's total emissions, it is aimed to supply necessary electric vehicle systems designed for public transportation for major municipalities of Turkey. In addition to the development activities carried out with TEMSA and ANADOLU ISUZU, the sale of electric vehicle systems to BMC has started. Electric Bus deliveries first in 2020 planned to be completed. In line with the expectations of the automotive industry, our mass production capabilities have been developed and effective cost management processes have been operated to meet expectations. ASELSAN being a leading defense industry establishment developing advanced technology system solutions on land, air, naval and aerospace platforms, has given importance to Research and Development activities and technological gains and targets since it was founded. Besides, it aims to spend approximately 7% of the annual turnover to its Research and Development activities financed with its own resources. 5000 employees work in the six R&D centers within the company. ASELSAN's total R&D expense was 3356 million TRY in 2020.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products

Description of product/Group of products

Renewable Energy Systems

Activities have been carried out to develop innovative and original technologies which will provide an efficient and uninterrupted supply of electricity from Turkey's extensive renewable energy resources, specifically aimed at solar and wind energy. Critical components have been developed with the maximum national means in order to provide a competitive advantage in micro grid base hybrid renewable energy system solutions. In the field of wind energy, the design, development and production processes of full-scale wind energy power converter systems and power grid connection algorithms, which are required by wind turbine manufacturers, have been completed. The first 300 kW power converter systems, which was ordered by the Northel EMK Company, has been successfully commissioned in the field. Continuing cooperation with METU GÜNAM in the field of photovoltaic solar energy, developing new cell cutting techniques for Shingled PV modules and PV module production has been included in the TÜBİTAK project in 2020.

With its 250 kW photovoltaic inverter product, ASELSAN aims to be a solution partner for all domestic and foreign investors who will install land and roof type solar power plants, including the YEKA SPP 3 tender to be held by the Ministry of Energy and Natural Resources.

Production of hybrid energy system solutions that provide reliable, economical and clean energy from sun and wind continued. Delivery of the container-integrated, hybrid energy system GURU Compact solution to the Turkish Armed Forces has been carried out

The efficiency values of c-Si cells produced in the existing production lines are mostly around 17-20%. The efficiency of IBC solar cells exceeds 20%. Since IBC solar cells do not have any optical losses due to the metal on the front surface, the light coming to the surface is absorbed with much less loss. As the amount of light absorbed increases, the number of charge carriers to be formed in the cell increases and consequently the amount of current light obtained from that cell increases. For this reason, higher efficiency values are obtained with solar cells connected to the rear. In addition to the reduction of optical losses, IBC solar cells during the modulation process have much less space than standard cells. For this reason, higher module efficiencies are achieved when using IBC solar cells.

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

Low-carbon product and avoided emissions

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

Other, please specify

2006 IPCC Guideline for National GHG Inventory

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

Comment

These climate resilient goods and services will allow third party to avoid emissions, % revenue is not categorized.
Detailed studies and designs were performed in 2020
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.
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The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units.

Level of aggregation

Group of products

Description of product/Group of products

ENERGY MANAGEMENT and SMART GRID SYSTEMS
System solutions consisting of critical hardware, algorithms and software for the National Smart Grid Network Management have been developed in order to transmit electricity efficiently, flexibly and effectively from the generation of electricity to its consumption throughout the country.
Within the scope of this project, the development of the National Electric SCADA and the National Energy Management Systems continued successfully in 2020.For this purpose, collaborations have been established with different companies and universities.
ARTU device, which is an advanced telemetry system used at the end points of smart grids, has started to be used in different networks- such as electricity, natural gas, oil, water, railways and micro-grids. It has proven itself in the operational environment.
Activities to expand the DEPAR Low Voltage Monitoring and Control System developed for the conversion of the electricity distribution network into a smart grid were carried out.
SCADA SYSTEMS
ASELSAN; flexible, reliable, customization according to the needs and different fields accelerated the national SCADA development studies in 2020. In this context; Batman-Dörtyol with SSB Crude Oil Pipeline SCADA Supply and Facility project was signed and studies were carried out to develop oil SCADA software.
Detailed design studies were completed by conducting field surveys along the pipeline route within the scope of the project. Conventional RTU produced by ASELSAN will be

used in the automation system, which will include 24 valve stations and 4 pump stations. The works within the scope of the contract are planned to be completed in 2021 and the system is put into operation.

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

Low-carbon product and avoided emissions

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

Other, please specify

2006 IPCC Guideline for National GHG Inventory

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

0.7

Comment

These climate resilient goods and services will allow third party to avoid emissions, % revenue is not categorized.
Detailed studies and designs were performed in 2020.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.
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Level of aggregation

Group of products

Description of product/Group of products

Multilane Free Flow Electronic Toll Collection System (MLFF-ETC) which does not affect traffic on the highway during its operation, enables the collection of tolls from highways around large cities such as Istanbul, and also enables applications aimed at preventing traffic congestion resulting with high ghg emissions in urban roads, by introducing electronic road charging methods.
MLFF Vehicle recognition system, recognizes the license plate of a vehicles on the roadway. Vehicles of interest are identified and tracked throughout different system locations. MLFF system that allows highway users to pass through tolling point at high

speed even when changing lanes without having to slow down to pay for toll. Congestion at MLFF is decreased at about %21 according to toll plazas. MLFF system reduces congestion rate at the Toll Plazas by increasing vehicles' throughput at more than 1500 vehicles per hour. The research shows that the average delay on vehicle is 13 seconds per vehicle/ km (comparing to the MLFF). In general, higher penetration rates give better results in term of emission reductions. On the highway road, modelled benefits at the macro level are 1.5% reduction in CO2 emissions for a %20 penetration rate, 4.5% reduction in CO2 emissions for a %60 penetration rate, 6.5% reduction in CO2 emissions for a %90 penetration rate. Thus, MLFF improve public transportation and help to reduce air pollution, NOx and CO2 and road noise via a decline in traffic. With the establishment of 16 new MLFF systems on the newly built roads of cities, the cumulative average vehicle speed on the roads where the wage was collected increased by 9%. In this way, there is no increase in CO2 emission in these new roads due to fee collection.

In 2020, new highway toll collection systems were established to cover the Northern Marmara Highway and the Ankara Niğde Highway, and a contract was signed for the Çanakkale 1915 highway and works were started to be established in 2021.

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

Avoided emissions

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

Other, please specify

2006 IPCC Guideline for National GHG Inventory

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

0.4

Comment

ASELSAN Toll Collection Systems are also used in Turkey’s showcase Public Private Partnership (PPP) highway projects. ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.

The Product Life Cycle System, expressed as PLM (Product Lifecyle Management), which can be considered one of the milestones for ASELSAN, is the most important part of ASELSAN's digital transformation included in the ASELSAN Strategic Plan for this purpose. PLM will prepare ASELSAN for the future by providing the infrastructure for the simultaneous engineering method that enables interactive and efficient work from design to production, from program management to integrated logistics support. Within the scope of the preparations initiated in this regard in 2020, ASELSAN PLM needs were analyzed and requirements were determined.

The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units

Level of aggregation

Group of products

Description of product/Group of products

ASELSAN has begun its activities to develop the energy management system which improves efficiency for railway transportation vehicles and reduces costs. In this system, it will become possible to reduce the electricity consumption of railway transportation vehicles and allow railway vehicles to be operated without a catenary system. With its modular structure, which can be used in both the vehicle and the station, the Energy Management System (EMS) allows railway vehicles, particularly trams, to be operated without a catenary system, allowing energy savings of up to 30% on public railway lines. In this context, the Energy Management System has been developed in order to store the braking energy in the Hybrid Shunting Locomotive, to achieve emission-free operation in the close areas, to reduce the noise level and to ensure fuel saving.
In urban applications e.g. Metro, 200.000 km distances are covered annually. In the maneuvering locomotive, high distances are covered in parallel with the frequency of use. In this way, ASELSAN solutions for hybrid electric vehicles and hybrid rail vehicles also contribute to reducing emission values. It is aimed to save 40% fuel in the hybrid maneuvering locomotive being developed, an average of 20-30% reduction in CO emissions and an average 30-40% reduction in CO2 emissions.
Within the scope of auxiliary power units for rail system vehicles in 2020;
» Acceptance and delivery of the products developed for the National Train continued,
» Deliveries for ANKARAY vehicles have been completed,
» Auxiliary Power produced within the scope of Hybrid Maneuvering Locomotive Unit was produced and device verification tests were completed within the CESUR unit.
Development, production and testing activities are carried out with the aim of providing Battery Management System, Traction System (Motor Inverter and Electric Motor), Vehicle Control and Management System, along with vehicle safety software and hardware (Advanced Driving Assistance Systems) - which are the basic critical components for electric vehicles - to vehicle manufacturers and organizations (OEMs and shipyards) in a cost effective manner.

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

Avoided emissions

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

Other, please specify

2006 IPCC Guideline for National GHG Inventory

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

Comment

These climate resilient goods and services will allow third party to avoid emissions, % revenue is not categorized.
The ERCI Innovation Awards, organized for the sixth time this year by the European

Railway Clusters Initiation (ERCI), evaluate the leading innovation projects of European railway industry companies and reward the best selected projects. Developed by ASELSAN, MIDAS-R ERCI was nominated for the Innovation Awards in 2020. ASELSAN was deemed worthy of the “Best Large-Scale Company” Award with MIDAS-R.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.
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Level of aggregation

Group of products

Description of product/Group of products

Development, production and testing activities are carried out with the aim of providing vehicle safety software and hardware (such as autonomous vehicle control and automatic breaking) along with Battery Management System, Traction System (Engine Driver Unit and Electric Engine), Vehicle Control and Management System, advanced sensor (day / night vision camera, LIDAR, RADAR etc.) units - which are the basic critical components for land, sea and airborne electric vehicles
The Electric Vehicle Systems Program Management Department started a project with TEMSA in March 2015 with the aim of producing the first domestic electric bus. A traction system has been developed for electric buses. Within the scope of the system, electric traction motor, motor driver (inverter), power distribution unit, high voltage battery system, vehicle control unit, driver instrument panel and vehicle charge control unit were developed by ASELSAN. These units were integrated into a bus developed together with TEMSA, and a domestic bus with the entire traction system was produced and type approval was obtained.
Electric vehicles can be operated with zero carbon emissions. For this reason, it is important to popularize electric vehicles, especially in city centers. In this direction, electrification of public transportation solutions will reduce environmental pollution and noise. Developed with the cooperation of TEMSA and ASELSAN, the bus is also important in terms of creating a sustainable ecosystem in this area with its locality rate of over 65%. Vehicle level emission is zero. It has become possible to bring the total emissions closer to zero, with electricity generation being directed towards renewable

energy technologies.It will provide financial returns with the widespread use from 2021. Project development period labor and material costs is around 9 million USD.

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

Avoided emissions

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

Other, please specify

2006 IPCC Guideline for National GHG Inventory

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

Comment

The design activities for electric public transportation vehicles, which are required by public institutions in Turkey, have been carried out at the level of joint feasibility studies with the authorities requiring them. Promotional activities have been carried out at municipalities, especially for electric buses that are needed by municipalities for public transportation. After serial production the % revenue of these products will be identified as sales figures.

ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.

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Level of aggregation

Product

Description of product/Group of products

The use of Distributed Acoustic Sensing (DAS) technology is becoming widespread in order to monitor and secure the lines such as oil pipeline, border line, railway line, city infrastructure, critical facility environment. In this context, MİDAS product, whose development studies were initiated in 2014, started to be used in many projects and 50 systems were installed.

MİDAS was developed together with Bilkent University Nanotam Research Center as

one of the successful examples of University-Industry Cooperation.
• Detection and diagnostic algorithms used in the system have been developed by applying Artificial Intelligence approach. The first contribution to the literature in this field was made by ASELSAN.
• Field and business development studies are being carried out to expand MİDAS on railway line security, train tracking and signalization.
• Within the scope of the Smart Cities concept, a pilot project is carried out with İBB - İGDAŞ to protect the natural gas pipelines against unauthorized excavations.
• Bursagaz Dağıtım A.Ş. With the EMRA approved R & D project for leak detection in urban natural gas pipes.
MIDAS (AI) is patented first time in the market place and being used in the pipeline and border security application for years. This project's timeline was between 2016-2019. It started to bring substantive opportunity to ASELSAN in terms of revenue. The product has started to be used in many projects and related patent has been obtained in 2020. System installations are in progress.

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

Low-carbon product and avoided emissions

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

The EU Taxonomy for environmentally sustainable economic activities

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

Comment

Within the scope of export growth targets, MİDAS product has high potential, and efforts have been made to give OEM to an American company in a way to enable the product to take place in the world market.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.
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Level of aggregation

Product

Description of product/Group of products

Production of the first domestic Wind Turbine with 4MW power.
Approximately 60% of our country's energy production is met from Coal-Lignite-natural gas resources. Replacing these sources with renewable energy sources in the medium term will reduce the carbon emission rate of our country. Thanks to this project, environmentally friendly domestic solutions will be offered. In addition, with this project, it is aimed to increase the rate of locality with the existing local ecosystem to at least 65% and thus to increase the sustainability of the ecosystem with more domestic production.

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

Low-carbon product and avoided emissions

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

The EU Taxonomy for environmentally sustainable economic activities

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

Comment

We will work with Global Design companies. In addition, the generator to be used in the turbine is designed together with METU and the power converter design is made by ASELSAN. The first 2 turbines to be produced will be installed at the EÜAŞ Alaçatı WPP site. In this context, the Industry Cooperation Project will be signed with the Ministry of Industry and Technology together with EÜAŞ.
The cost of Technology Transfer, and ASELSAN's labor and purchases to be made will be around 8.3 million USD
After serial production the % revenue of these products will be identified as sales figures.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.
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Level of aggregation

Group of products

Description of product/Group of products

CITY TRAFFIC CONTROL AVOIDING TRAFFIC JAM RELATED EMISSIONS,
Junction control devices communicate with each other and provide traffic management both at the intersection and at the city level. Unlike the use of predetermined plans, which is the method generally used in the industry, the system works in real time with a fully adaptive model. By using various sensors and image processing technologies such as cameras and “loop” detectors, the duration of traffic lights at intersections is determined instantly with the vehicle density information coming from the intersections. For example, if there is no vehicle in one of the intersection arms, the green light does not turn on for that direction in order to increase the efficiency of the traffic flow. According to the data collected at the same time periods before and after the use of the intersection control device at the designated intersections, an average of 26.14% in delays per vehicle, 15.87% in the number of stops per vehicle, 510 lt in total daily fuel consumption and 1,220 kg in total daily CO2 emissions.
METRO SIGNALING SYSTEM,
The most efficient transportation system in terms of energy in the world is rail transportation. In addition to this, metro transportation systems are the least harmful systems to the environment. Thanks to the developed signaling systems, the traffic density will be reduced as passengers prefer safe and comfortable transportation, and thus the carbon and noise level released to the environment will be reduced. For the Gayrettepe-Istanbul New Airport metro line, the Metro Signaling System, which will operate in CBTC mode and be operated as GoA4, will be provided.
In this context, the design, testing and commissioning activities of Onboard, Line ATC, ATS System and Communication Systems and certification activities will be carried out in parallel.
The investment cost is around 17.8 Million USD. It is the contract price of the project.
R&D Investment cost: 9.9 Million USD
Project Start Date: 2020 Project End Date: 2022

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

Low-carbon product and avoided emissions

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

The EU Taxonomy for environmentally sustainable economic activities

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

Comment

ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at the level of USD 9.5 billion.

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Level of aggregation

Product

Description of product/Group of products

WATER MANAGEMENTS SYSTEM,
It includes the development of systems for efficient monitoring and control of the process from the source to the delivery of the water to the end user. The main purpose of the developed solutions is to ensure energy and water efficiency.
It aims to save up to 25% of energy in the management of water in our cities and to reduce the loss and leakage rates that currently exceed 50%.

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

Low-carbon product and avoided emissions

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

The EU Taxonomy for environmentally sustainable economic activities

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

Comment

A product partnership agreement was signed with Envest, which develops SCADA units related to the subject.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming is at the level of USD 9.5 billion.
The Product Life Cycle System, expressed as PLM (Product Lifecyle Management), which can be considered one of the milestones for ASELSAN, is the most important part of ASELSAN's digital transformation included in the ASELSAN Strategic Plan for this purpose. PLM will prepare ASELSAN for the future by providing the infrastructure for the simultaneous engineering method that enables interactive and efficient work from design to production, from program management to integrated logistics support. Within the scope of the preparations initiated in this regard in 2020, ASELSAN PLM needs

were analyzed and requirements were determined.
The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units.

Level of aggregation

Group of products

Description of product/Group of products

MOBILITY ON DEMAND SERVICE, is a study aimed at using the integrated transportation service known as MaaS in the world (Mobility As a Service) in Turkey. There are MaaS systems used at different levels in Turkey, but the Level-4 MaaS service, which is the aim of the TÜMS project, is not available.
With this service, which will be offered as Level-4, it is aimed to prevent the waste of idle resources in public, institutions and individual transportation plans and to establish a mobility transportation system covering the whole country.
In the TÜMS system, which is aimed to be presented as Level-4, electric vehicles etc. Reducing carbon dioxide emissions by using environmentally friendly vehicles, increasing the use of shared vehicles and solving the traffic density problem will be collected in the TÜMS system for regions with no and/or limited access to transportation.
Providing decision support to the relevant authorities by using the data and making the transportation facilities meet the needs of each region are among the social goals that TÜMS will provide.
Aselsan will work with Transportation Service Providers, Data Providers, Municipalities, Technology Service Providers throughout the country within the scope of TÜMS.
In addition, it plans to conduct algorithm development studies with universities related to the subject in route optimization and machine learning sections. The investment cost is around 5 million USD.

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

Low-carbon product and avoided emissions

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

The EU Taxonomy for environmentally sustainable economic activities

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

Comment

When the business model is determined, the revenue model will become clear. A clear result will emerge with the digitized journeys. A reduction of at least 10% is expected. Project start date: 2021 ,Project end date: 2024.
ASELSAN continued to add new products to its product range in 2020 and receives new orders within this framework. As of the end of 2020, new contracts/orders amounting to USD 1.3 billion have been signed, and ASELSAN's backlog for the coming years is at

the level of USD 9.5 billion.
The Product Life Cycle System, expressed as PLM (Product Lifecyle Management), which can be considered one of the milestones for ASELSAN, is the most important part of ASELSAN's digital transformation included in the ASELSAN Strategic Plan for this purpose. PLM will prepare ASELSAN for the future by providing the infrastructure for the simultaneous engineering method that enables interactive and efficient work from design to production, from program management to integrated logistics support. Within the scope of the preparations initiated in this regard in 2020, ASELSAN PLM needs were analyzed and requirements were determined.
The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start
January 1, 2016

Base year end
December 31, 2016

Base year emissions (metric tons CO2e)
14,690

Comment
In 2015, the Gölbaşı Facility started its operations and the system boundary was revised accordingly.
In the reporting year another new facility Akyurt 2 started its operations.
The system boundary is the same as in 2015.

Scope 2 (location-based)

Base year start
January 1, 2016

Base year end
December 31, 2016

Base year emissions (metric tons CO2e)
42,320

Comment
Only location-based result was used, there is no market-based figure.

Scope 2 (market-based)

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO2e)

Comment

There is no market- based figure.

C5.2

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

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance

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)

14,690

Comment

The data cover Scope 1 GHG emissions of all facilities located in Ankara and İstanbul
As absolute amount, there is an increase of 3,8% compared to previous year.
The reason of this increase : In the reporting year the company FTE number has increased to 8764 , an increase of 15% compared to the previous year. Due to the inability to work from outside for confidentiality reasons; Hybrid working model has not been applied during the pandemic and employees were preferred to work distantly in free large areas such as empty meeting rooms, or other large zones which were heated or illuminated.

All production facilities and office areas were in service for longer hours in order to ensure social distance.
At the employee commuting side; more shuttle vehicles were used to transport employees by applying the distance rule.

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

In ASELSAN, only the electricity purchased from National Interconnected System Grid is consumed.

C6.3

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

Reporting year

Scope 2, location-based

42,320

Comment

This figure represents the purchased electricity from National Interconnected System. ASELSAN do not have any source of market-based Scope 2 emissions.

C6.4

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

Yes

C6.4a

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

Source

Temporary Project Offices in various locations in Turkey

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why this source is excluded

We have a small number of temporary offices in various locations in Turkey. However, these offices only operate during particular project period and may not operate throughout the reporting period which makes it hard to monitor or control. Since these offices constitute a negligible operational volume, they are classified as de-minimis GHG emission sources, and are excluded from the boundary.

C6.5

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

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Please explain

For a smooth transition to the new ISO 14064: 2018 Standard, and in order to understand and manage the financial and temporal burdens of the supply and value chain management we started to engage with our main suppliers to step into the new Standard's requirements. First, key personnel have been trained by Turkish Standard Institution. Then, workshops were executed at the 4th quarter of 2019. The New Procurement Management Process was initiated with internal and external communication and data gathering activities. System Boundary Setting was performed. In 2020 we focused on this item with a limited work because of pandemic conjuncture (because of intermittent work in the value chain). In 2021, the efforts of transition to LCA activities will regain speed. The green procurement approach is always in the concern of our company. ENERGY EFFICIENT PURCHASING PROCEDURE was established for procurement activities. With the studies carried out in this context, taking into account energy efficiency at the procurement stage with process innovations such as integration and minimization of logistics activities, emphasis on environmentally friendly technologies in the selection of machinery / equipment, etc. applications are activated. It is planned to create some indicators in the upcoming period in order to monitor and report the outcomes to be achieved.

Capital goods

Evaluation status

Not relevant, explanation provided

Please explain

Green procurement process is in the concern of our company. The company does not have the information and inventory to account for these emissions associated with this source.
ASELSAN does not predict the full inclusion over a three years period.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6,918.62

Emissions calculation methodology

DEFRA -WTT fuel conversion factors were used to account for the upstream Scope 3 emissions associated with extraction, refining and transportation of the raw fuel sources to the organisation’s site, prior to combustion.
Transmission & distribution losses arising from purchased electricity were calculated using approved electricity emission factor for Turkey (3 rd party certification for 2020 was fulfilled) and TEIAŞ statistics.

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

100

Please explain

The activity data was collected from the third- party energy invoices.
Upstream emissions of purchased fuels such as Natural gas, LPG, Diesel, CNG were calculated.
Calculations were fulfilled by using billed amount of purchased electricity and other invoices which were verified by the 3 rd party during the certification of 2020 activities.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

356.14

Emissions calculation methodology

DEFRA – Freighting Goods 2020 emission factors were used for calculations based on the GHG Protocol Corporate Value Chain(Scope 3) Standard.

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

Please explain

This data was provided from our main chemical material suppliers who transport chemicals inside our Macunköy Facility by using roadway. The great majority of this transportation's GHG gases comprise CO2 from exhaust emissions (fuel usage).
In 2020 this process was revised; the system boundary was enlarged before the transition to new ISO 14064:2018 Standard. We are still on the work to prepare a clear climate change related procurement policy to measure and reduce CO2 emissions generated from upstream transportation of chemicals.
The verification of this category was fulfilled by the 3rd party audit for 2020 activities

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

238.79

Emissions calculation methodology

The assessment and the data gathering process is in place. Waste generated in operations is calculated based on Defra 2020 methodology on Waste Disposal. Wastewater generated from operations is calculated based on Defra 2020 methodology on Water Treatment

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

100

Please explain

This data is the sum of hazardous & scrap wastes and waste water. The first group have an emission of 30.85 tons CO2-e. This data is provided by ASELSAN and reported to the Ministry in the reporting year. Waste water having an emission of 207.94 tons CO2-e is discharged into the municipal sewer system. The verification of all the categories is fulfilled by the 3rd party audit for 2020 activities.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,390.43

Emissions calculation methodology

The assessment and the data gathering process is in place. Air travel based emission is calculated based on DEFRA 2020 methodology for Business Travel-Air

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

100

Please explain

The data is provided from ASELSAN's Travel Supplier. The verification of this category is fulfilled by the 3rd party audit for 2020 activities.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1,146.75

Emissions calculation methodology

The assessment and the data gathering process is in place. Employee commuting based data is calculated based on DEFRA 2020 methodology for Business Travel- Land

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

100

Please explain

This data covers the emissions from transportation of employees to and from work. The FTE number has increased in 2020. In the reporting year, in pandemic conjunction, more shuttle vehicles were used to transport employees by applying the distance rule. The verification of this category is fulfilled by the 3rd party audit for 2020 activities.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

We did not use upstream leased assets in 2020.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

In the reporting year we have focused on improving our data collection system with lowest possible uncertainty for the transition to the new version of ISO 14064:2018 in 2021. In order to manage and set the system boundary, supply and value chain data

gathering activities were investigated. We started to engage with our main suppliers to step into the new Standard's requirements for this category.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Our products are not processed or re-processed any further after they have been sold. Consequently, the scope 3 category “Processing of sold Products” is not relevant for ASELSAN

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

This emission source is out of the boundary due to data gathering problem in the usage phase of sold products.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

This emission source is out of the boundary due to the lack of data about the end of life treatment of sold products.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

There are not any leased downstream assets in ASELSAN. This emission source has been excluded from the boundary

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

ASELSAN has no franchises. This emission source has been excluded from the boundary.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

The relevant activity data for Akyurt 2 civil engineering activities could not be provided by the supplier.

Other (upstream)

Evaluation status

Relevant, calculated

Metric tonnes CO2e

11,037.49

Emissions calculation methodology

The assessment and the data gathering process is in place. In addition to food and beverage consumption, Glass and Paper consumption data is calculated based on methodology for DEFRA: Material Use – 2020. Water supply data is calculated based on methodology for DEFRA: Water Supply – 2020.

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

100

Please explain

The boundary of other upstream scope 3 emissions is enlarged by ASELSAN. We have assessed and revised the data quality of our food and beverage, glass and paper consumption. The data is procured from the suppliers.
The water supplied by ASKİ- mains supply network, is added to the boundary. The emissions in metric tonnes CO2-e are as follows: 10,815.89 (F&B), 7.11 (Glass), 54.86(Paper), 159,93(Water Supply)
The verification of all the categories is fulfilled by the 3 rd. party audits for 2020 activities.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

There are no additional other downstream emission sources for the reporting year.

C-CG6.6

(C-CG6.6) Does your organization assess the life cycle emissions of any of its products or services?

	Assessment of life cycle emissions	Comment
Row 1	No, but we plan to start doing so within the next two years	ASELSAN is aware that the Scope 3 inventory enables us to identify the GHG reduction opportunities across the entire corporate value chain, while product life cycle assessment enables a company to target individual products with the greatest potential for reductions. For the next 2 years we plan to start assessment of life cycle emissions for one product group. This subject will be studied for some selected product group after the transition to ISO 14064: 2018 Standard. The Product Life Cycle System, expressed as PLM (Product Lifecyle Management), which can be considered one of the milestones for ASELSAN, is the most important part of ASELSAN's digital transformation included in the ASELSAN Strategic Plan for this purpose. PLM will prepare ASELSAN for the future by providing the infrastructure for the simultaneous engineering method that enables interactive and efficient work from design to production, from program management to integrated logistics support. Within the scope of the preparations initiated in this regard in 2020, ASELSAN PLM needs were analyzed and requirements were determined. The requirements for ASELSAN's transition to the PLM System have been determined with the participation of all sector presidencies and general management units.

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

0.00000354

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

57,009.12

Metric denominator

unit total revenue

Metric denominator: Unit total

16,104,454,759

Scope 2 figure used

Location-based

% change from previous year

11.3

Direction of change

Decreased

Reason for change

The main reason of intensity figure reduction is the revenue growth compared to previous year.
Although our business growth rate was 23.76% in terms of revenue, the increase rate in our emissions was limited with 9.77% on the basis of absolute emissions (S1+S2). This result stems from our ambitious and consistent approach to emission reduction.

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	11,898.49	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	7.9	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	31.29	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	2,751.46	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	14,689.13

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
Macunköy	4,723.52	39.96763	32.76631
Akyurt 1	4,879.59	40.08628	33.02409
Akyurt 2	165.45	40.51025	33.1184
Gölbaşı	4,757.18	39.71837	32.81612
Teknokent ODTÜ	0	39.89353	32.77346
Teknokent ODTÜ (Titanyum)	9.63	39.8934	32.7713
Teknokent-Hacettepe	2.09	39.863	32.7378
Teknopark-Ivedik	24.51	39.9961	32.7521
Teknopark- İstanbul	78.7	40.8513	29.28764
Şişli	48.47	41.05613	28.98536

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 Consumption for heating, boilers and kitchen	9,788.62
Diesel consumption for generators and fire pumps	307.82
LPG consumption at kitchen	1.3
CNG consumption in the production process	0.01
Gasoline consumption for company cars	0
Diesel oil consumption for company cars	1,829.72
Diesel oil consumption for forklifts	9.5
Fugitive emissions from air conditioning system	2,124.05
Fugitive emissions from fire extinguishers	628.11

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Turkey	42,319.99		89,843.89	

C7.6

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

By facility

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Macunköy	16,768.87	
Akyurt 1	12,835.9	
Akyurt 2	583.65	
Gölbaşı	10,907.36	
Teknokent ODTÜ	454.73	
Teknokent- ODTÜ (Titanyum)	160.14	
Teknokent- Hacettepe	9.54	
Teknopark-İvedik	340.56	
Teknopark- İstanbul	201.35	
Şişli	57.89	

C7.9

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

Increased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change		
Other emissions reduction activities	362.61	Decreased	0.6361	The emission reduction activities implemented in 2020 have been resulted with a reduction of 362.61 tons of CO2-e Calculation: (-362.61/57,009,12)*100= 0.6361%
Divestment	0	No change		
Acquisitions	0	No change		
Mergers	0	No change		
Change in output	0	No change		
Change in methodology	1,329.69	Increased	2.3324	Previous year the electricity emission factor used in the calculation referred to IEA 2016 Report. This year in line with the update of IEA, we started to use, IEA 2018 Report emission factor in our inventory calculation. In IEA 2016 Report, the emission factor was 0.0004513 and in IEA 2018 Report, the emission factor is 0.0004661. Calculation (1,329.69/57,009.312) *100 = 2.3324%
Change in boundary	0	No change		
Change in physical operating conditions	918.87	Increased	1.6118	The scope 1&2 emissions of Akyurt 2 and ODTU (Titanyum) locations were added to the calculations.
Unidentified	0	No change		
Other	3,189.12	Increased	5.5941	The reason of the change in the emission sources:

				The major items which has the highest impact on the change are electricity and natural gas consumption. The electricity consumption is 6.20% and natural gas consumption is 18.84% higher compared to previous year.The reason of this increase: In the reporting year the company FTE number has increased to 8,764 , an increase of 15% compared to the previous year. Due to the inability to work from outside for confidentiality reasons; Hybrid working model has not been applied during the pandemic and employees were preferred to work distantly in free large areas such as empty meeting rooms, or other large zones which were heated or illuminated. All production facilities and office areas were in service for longer hours in order to ensure social distance. Since these areas were not used for this purpose in the past years, such energy was not wasted in the previous year.

C7.9b

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

Location-based

C-CG7.10

(C-CG7.10) How do your total Scope 3 emissions for the reporting year compare to those of the previous reporting year?

Increased

C-CG7.10a

(C-CG7.10a) For each Scope 3 category calculated in C6.5, specify how your emissions compare to the previous year and identify the reason for any change.

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

Direction of change

First year of reporting this category

Upstream transportation and distribution

Direction of change

Increased

Primary reason for change

Change in boundary

Change in emissions in this category (metric tons CO2e)

309.31

% change in emissions in this category

661

Please explain

Transported raw material data gathering process has been modified last year. For the transition to the new ISO14064:2018 version, the boundary was enlarged.

Waste generated in operations

Direction of change

Increased

Primary reason for change

Other, please specify

Pandemic Conditions

Change in emissions in this category (metric tons CO2e)

36.05

% change in emissions in this category

18

Please explain

In 2019 waste disposal amount was 202.74 tons , in the reporting year it has increased to 238.79 tons.
In the pandemic, contaminated wastes have increased due to hygienic protection.

Business travel

Direction of change

Decreased

Primary reason for change

Other, please specify

Change in working conditions

Change in emissions in this category (metric tons CO2e)

3,935.38

% change in emissions in this category

74

Please explain

In 2019 the delegates and technical groups have been encouraged by the management to make their meetings via Webex or zoom application. With the emergence of the pandemic, this process became completely mandatory and was implemented throughout the year.

Employee commuting

Direction of change

Increased

Primary reason for change

Other, please specify

Pandemic conditions

Change in emissions in this category (metric tons CO2e)

183.47

% change in emissions in this category

19

Please explain

In the reporting year the company FTE number has increased to 8764, an increase of 15% compared to the previous year.
More shuttle vehicles were used for same destinations for the purpose to transport employees by applying the distance rule in the vehicle.

Other (upstream)

Direction of change

Increased

Primary reason for change

Other, please specify

FTE number increase.

Change in emissions in this category (metric tons CO2e)

1,915.41

% change in emissions in this category

21

Please explain

In the reporting year the company FTE number has increased to 8764, an increase of 15% compared to the previous year.
F&B consumption increased with the hygiene precautions. The number of disposable cups and other items for hygiene purposes increased in dining halls and cafeterias.

C8. Energy

C8.1

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

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

C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)		58,563.87	58,563.87
Consumption of purchased or acquired electricity			89,843.89	89,843.89
Total energy consumption			148,407.76	148,407.76

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

50,620.77

Emission factor

0.00194

Unit

metric tons CO2e per m3

Emissions factor source

IPCC Chapter 2 Stationary Combustion (Table 2.3)
The verification of this emission factor was fulfilled by the 3 rd party audit for 2020 activities.

Comment

The natural gas was consumed for heating purpose in the facilities of ASELSAN
The verification of total Natural Gas consumed by all facilities was fulfilled by the 3 rd party audit for 2020 activities.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

7,937.91

Emission factor

0.00289

Unit

metric tons CO2e per liter

Emissions factor source

IPCC Chapter 2 Stationary Combustion (Table 2.3) EF: 0.002622
IPCC Chapter 3 Mobile Combustion (Table 3.2.1 and 3.2.2) EF: 0.002665
IPCC Chapter 3 Mobile Combustion off-road(Table 3.3.1) EF: 0.002897
The verification of these emission factors was fulfilled by the 3 rd party audit for 2020 activities.

Comment

In the organization, diesel/ gas oil is consumed in 3 different activities that the calculation is the sum of these activities. Diesel/Gas oil for stationary activities. Diesel/Gas oil for mobile activities. Diesel/Gas oil for Off Road activities.
The verification of the total fuel consumed by the organization was fulfilled by the 3 rd party audit for 2019 activities

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

5.7

Emission factor

0.00288

Unit

metric tons CO2e per metric ton

Emissions factor source

IPCC Chapter 2 Stationary Combustion (Table 2.3)
The verification of the emission factor was fulfilled by the 3 rd party audit for 2020 activities

Comment

The verification of the total fuel consumed by the organisation was fulfilled by the 3 rd party audit for 2020 activities.

Fuels (excluding feedstocks)

Compressed Natural Gas (CNG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

0.05

Emission factor

0.00193

Unit

metric tons CO2e per m3

Emissions factor source

IPCC Chapter 2 Stationary Combustion (Table 2.3).
The verification of this emission factor was fulfilled by the 3 rd party audit for 2020 activities.

Comment

CNG is consumed in Akyurt facility.
The verification of the total fuel consumed was fulfilled by the 3 rd party audit for 2020 activities

C-CG8.5

(C-CG8.5) Does your organization measure the efficiency of any of its products or services?

	Measurement of product/service efficiency	Comment
Row 1	Yes	Many of our products contain smart components. All parameters related to efficiency measurement are measured, evaluated and

		recorded by sensors and smart units in the systems. These data can be analyzed later to measure efficiency.

C-CG8.5a

(C-CG8.5a) Provide details of the metrics used to measure the efficiency of your organization's products or services.

Category of product or service
Power tools

Product or service (optional)
Hybrid Energy System including battery, power panel and wind turbine

% of revenue from this product or service in the reporting year
0.02

Efficiency figure in the reporting year
0.7

Metric numerator
megawatt hour (MWh)

Metric denominator
Other, please specify
kilowatt hour (kWh)

Comment
The ratio of the energy produced by the Hybrid Energy System from its own renewable energy sources, to the total consumed energy is evaluated as efficiency. The efficiency figure is 70% in the reporting year.

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
1,862

Metric numerator

Tonnes of waste

Metric denominator (intensity metric only)

% change from previous year

12.8

Direction of change

Increased

Please explain

Reason of increase: During the pandemic,the amount of contaminated waste has increased for hygiene purposes.
The protective equipment of workers have been changed frequently.
ASELSAN manages the waste generated from its operations by taking the waste management hierarchy into account, in a manner that minimizes their environmental impacts. This management approach starts by reducing waste at the source and continues with waste reuse, recycling and disposal as a last resort. The verification of regularly reported wastes to MoEU is fulfilled by the 3rd party audit for 2020 activities. In order to prevent and minimize waste generation and ensure recycling, ASELSAN started to work voluntarily in May 2019 to implement the "Zero Waste Project" in all its campuses. The training was given to all workers and related staff who will take an active role in waste separation /collection. Within this implementation, approximately 140 tons of waste will be recycled and brought into the economy every year.

Description

Other, please specify

Waste water discharged into sewer system

Metric value

293,705

Metric numerator

Cubic meter of waste water

Metric denominator (intensity metric only)

% change from previous year

23

Direction of change

Increased

Please explain

Reason of increase: During the pandemic, the amount of contaminated waste water has increased after hygiene purposes.
The use of water for hygiene purposes has increased, also general cleaning period has been increased for offices.

Description

Energy usage

Metric value

58,563.87

Metric numerator

MWh from non-renewable sources
Consumption of fuel

Metric denominator (intensity metric only)

% change from previous year

20

Direction of change

Increased

Please explain

The reason of this increase: In the reporting year the company FTE number has increased to 8764, an increase of 15% compared to the previous year. Due to the inability to work from outside for confidentiality reasons; Hybrid working model has not been applied during the pandemic and employees were preferred to work distantly in free large areas such as empty meeting rooms, or other large zones which were heated or illuminated.
All production facilities and office areas were in service for longer hours in order to ensure social distance.
Since these areas were not used for this purpose in the past years, such energy was not wasted in the previous year.
At the employee commuting side; more shuttle vehicles were used to transport employees for the purpose to apply the distance rule.

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	ASELSAN aims to strengthen its position as the leading company in the industry by adding advanced technology such as augmented reality, artificial intelligence and similar capabilities to autonomous aircraft in the future. Research projects on sensing and planning technologies to increase the autonomy level of unmanned aerial vehicles are carried out at the ASELSAN Research Centre. In addition, intelligent control methods are being developed for energy efficiency in unmanned systems and for unmanned aerial vehicles to perform their operations with more agile maneuvers. Another field of activity carried out to support civil applications in the field of space is cube satellites. In this area, the first ASELSAT cube satellite project was carried out. Through remote sensing applications, it is aimed to continue with cost and calendar effective satellite development studies for civilian applications in areas such as Meteorology, Agriculture, Disaster and Emergency Management. One of the main fields of activity of our company is renewable energy systems. For the purpose to drive opportunities in this new system, ASELSAN has already begun to position as a leader in technology base projects in order to meet the needs of all stakeholders in the global energy systems market with efficient, reliable, economic, high quality state of- the-art products and services in the areas of electricity generation, transmission, distribution, consumption and management. ASELSAN has established programs for the R&D, design, production, integration and after sales support in the following areas: · Energy Management and Smart Grid Systems and · Renewable Energy Systems. Development of system, software and hardware components for national and international markets have been targeted in the field of smart grids, in order to provide solutions for the monitoring, optimization and management of generation, transmission, distribution and consumption of energy systems for energy sector. In this context, renewable energy projects with own resources and contracts are carried out and the necessary investments are made. In the reporting year, the total expenditure on R&D activities was 3356 million TRY, the previous year was 2975 million TRY.

C-CG9.6a

(C-CG9.6a) Provide details of your organization's investments in low-carbon R&D for capital goods products and services over the last three years.

Technology area

Renewable energy

Stage of development in the reporting year

Small scale commercial deployment

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

41 - 60%

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

Comment

ASELSAN makes the necessary investments within the scope of the projects without delay. Annual maintenance and calibrations of investments are constantly monitored. Technological trends are closely followed and new investments are planned and implemented. For example; The project for the original development of generator and full-scale power converter units, which are critical components of the Wind Turbine, has been launched. In order to test these study outputs, an investment activity of over MW Electronics and Electric Machinery Laboratory is carried out. Within the scope of renewable energy and all other projects, many investments are needed to be used in design, development, test and verification activities. For example; Various computer aided software tools were provided to be used within the scope of design activities (Homer, PVSol Matlab etc.). Similarly, investments were made for measurement and testing purposes (Lidar, dynamo-meter, PV simulator etc. for wind measurement)

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

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 1 and 2.pdf

Page/ section reference
2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 1 and 2 (Page 1)

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Reasonable assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 1 and 2.pdf

Page/ section reference
2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 1 and 2 (Page 1)

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1c

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

Scope 3 category

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Upstream transportation and distribution

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3 (upstream)

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Waste generated in operations

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3.pdf

Page/section reference

2020 ASELSAN Carbon Footprint Verification Opinion Statement Scope 3 (Page 1)

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?

Carbon pricing options offer the most cost-effective way of mitigating climate change and can be helpful for countries in upholding their mitigation commitments or potentially exceeding them. The carbon price also stimulates clean technology and market innovation, with new, low-carbon drivers of economic growth. The EU emissions trading scheme (EU-ETS) has been the region's key policy tool for containing rising greenhouse gas emissions over the past two decades, and remains a fundamental pillar of the EU Green Deal, which commits the region to reach carbon neutrality by 2050. Turkey is taking steps to prepare its economy for closer ties with EU legislation, while Turkey does not yet have carbon pricing systems in place, it has started to explore opportunities to implement a National Emissions Trading Scheme. The two main policy options that are being used as carbon pricing mechanisms are carbon taxation and emissions trading systems (ETS).

In November 2018 a synthesis report was submitted to the Climate Change and Air Management Coordination Board, outlining possible carbon market policy options for Turkey. Following this, the end of the year saw the completion of the primary phase, and beginnings of the second phase of the plan. The second phase, which was completed at the end of 2020 – includes:

· Development of a 'Climate Change Law', ETS regulation and institutional framework for a pilot ETS

· Development of the pilot ETS cap and preliminary specifications for MRV sectors

· Development of Turk-SIM (an ETS digital simulation with gamification features)

· Development of the pilot ETS transaction registry

· Assessment of Article 6 Paris Agreement implications and options for Turkey

ASELSAN states her corporate views on these issues. Several number of stakeholder meetings and feedback rounds were conducted by the MoEU in 2020. In Turkey, emission data is reported to the Ministry annually by high energy intensive sectors according to the MRV regulation. ASELSAN is not in the scope of this regulation yet. However, since we have established our ISO 14064-1 system and have been calculating our emissions and processing verification by accredited third parties, we are ready to report our emissions. We anticipate that Ministry will include in 2022, the pilot sectors which are in the scope of MRV Regulation, first. We are ready to comply with the schemes when the market is once established in Turkey. National ETS or taxation system can influence our company after 2022.

As part of our involvement in this new upcoming system, our energy efficiency was upgraded in 2022 with Energy Management Systems, ISO 50001:2018.

For the 3 main facilities, the energy efficiency projects started to be implemented as from the second quarter of 2019.

For the purpose to drive opportunities in this new system, ASELSAN has already begun to position as a leader in technology base projects in order to meet the needs of all stakeholders in the global energy systems market with efficient, reliable, economic, high quality state of- the-art products and services in the areas of electricity generation, transmission, distribution, consumption and management.

ASELSAN has established programs for the R&D, design, production, integration and after sales support in the following areas:

· Energy Management and Smart Grid Systems and

· Renewable Energy Systems.

Development of system, software and hardware components for national and international markets have been targeted in the field of smart grids, in order to provide solutions for the monitoring, optimization and management of generation, transmission, distribution and consumption of energy systems for energy sector

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

For the purpose to diminish the absolute company-wide total GHG emissions, we have a target to purchase voluntary certified carbon credits. for S1&S2 emissions. For the first year our aim is to offset the Scope 2 emissions via this target. 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)

270

Variance of price(s) used

The EU Green Deal would counteract the risk of carbon leakage by putting a carbon price on imports of certain goods from outside the EU. Base on Green Deal- Carbon Border Adjustment mechanism, increased pricing on imported goods is considered a key regulatory-driven climate risk at ASELSAN.
"The New Climate Regime through the Lens of Economic Indicators" Report discusses the impacts of CBA on the Turkish industry with economic models. It was launched in September 2020, with the participation of the Minister of Environment and Urbanization and Chief Climate Negotiator. Base on 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. For ASELSAN the likelihood of a carbon border adjustment based tax is expected to have a long term effect on operational costs in the future. We closely monitor compliance with this emerging regulation and other critical climate policies. Internally the Evolutionary pricing

is used.The price used is: 270 TRY.
30 € (As average currency 1€=9 TRY in 2020)

Type of internal carbon price

Shadow price
Offsets

Impact & implication

The financial impact of this voluntary activity is low, it will not impact our business. This study enables the company to define also climate related emerging regulation based risks.
The price on carbon influences the decision-making processes for our current strategies and future energy demand.
One of the strategic opportunities of ASELSAN is to make new investments in renewable technologies.
This tool shifted also the investments toward energy efficiency measures in our facilities.

C12. Engagement

C12.1

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

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

C12.1a

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

Type of engagement

Compliance & onboarding

Details of engagement

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

% of suppliers by number

30

% total procurement spend (direct and indirect)

69

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

30

Rationale for the coverage of your engagement

With the belief of being a responsible producer for responsible consumption, we try to improve our entire value chain while managing our business continuity risk. Our domestic companies constitute a very important part of our company's over 5,000 suppliers and our nationalization efforts are continuing rapidly. We communicated with 30% of our local companies on climate change issues, get information from them and try to support the improvement of their processes.

Our suppliers' performance has a significant impact on the management of economic, social and environmental (ESG) issues of our company.

The rational for the coverage of this survey is Assessment of Suppliers which have an impact on total procurement spent. ASELSAN has created a pioneering and innovative platform in order to strengthen the bond with its suppliers, to reduce foreign dependency by increasing the effectiveness of nationalization efforts, and to carry out cooperation with its suppliers under an integrated roof. Our Power One platform went live in April 2020. It is an interactive platform that the target audience is ASELSAN's current and potential suppliers. This platform serves through a corporate website and mobile applications.

Impact of engagement, including measures of success

Supplier risk assessment studies have started as of August 2020, and companies have been subject to risk assessments. Within the scope of supplier risks, the targets are:

* High Risk Critical Supplier Ratio: 0% *High Risk Supplier Ratio <1%

At ASELSAN, supply chain risks are determined and followed up by the relevant units in detail, such as global crises, epidemics, natural disasters and terrorist incidents, which are difficult to foresee, as well as those arising from the dynamics of the industry, suppliers, customers or production activities. Risks that are evaluated at a critical level are monitored and measured. Short and medium-term strategies are developed, and necessary practices are implemented to prevent risks or reduce their effects. ASELSAN determines the risks of all its approved suppliers, primarily critical suppliers. After the follow-up visits and the completion of the improvements, the medium risk companies are placed in the low risk group to be eligible as good performers. The topics of GHG emissions measurement and climate change strategies are added into environmental management questionnaire and our suppliers are monitored and scored according to their replies.

ENVIRONMENT AND CLIMATE CHANGE QUESTIONNAIRE:

1. Environmental Management

- Do you have any studies / management system related to Environmental Management and policies and targets within this scope?
- Do you have any products / activities that you think pose a risk for the environment? If yes, please provide information about the products and activities and the works you carry out in this context:
- Have you received any environmental law enforcement or criminal action in the last 3 years?

2. Greenhouse Gas Emissions

- Waste and energy, water etc. Do you have any work to reduce consumption? Can you give an example of your improvement works in this context?

3. Use of Clean / Environmentally Friendly Technology
- Do you take into account the use of clean and environmentally friendly technology in your investments? For example, in the selection of devices and equipment, the selection of those with high energy efficiency that provides minimum electricity / water consumption and waste generation, the use of reusable or recyclable packaging, the use of economical light bulbs / taps, etc. Can you give an example?

Comment

Expectations and demands of ASELSAN's Supply Chain Management from the suppliers:
•To obtain ISO 14001 certification and / or activate existing environmental management systems, (Ex: Waste management practices, use of reusable equipment, etc.)
• To reduce the consumption of electricity / water / natural gas etc. by starting to record the consumption,
• To use energy-saving and sensor lamps / taps etc.
• To consider Environmentally Friendly Technology in their investment decisions,
• To participate the training on Greenhouse Gas Emission monitoring and reduction methods, executed by ASELSAN
• To participate the Carbon Disclosure Project Supplier Module.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Climate change performance is featured in supplier awards scheme
Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 &2)
Offer financial incentives for suppliers who reduce your upstream emissions (Scopes 3)

% of suppliers by number

30

% total procurement spend (direct and indirect)

69

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

30

Rationale for the coverage of your engagement

All our activities are carried out by focusing on the "sustainability" approach embedded in our strategy and business model. Our suppliers' performance has a significant impact on the management of economic, social and environmental (ESG) issues of our company. We communicated with 30 % of our local companies on climate change issues, get information from them and try to support the improvement of their processes. We will offer financial incentives for suppliers who reduce our operational emissions (Scopes 1 &2) and also financial incentives for suppliers who reduce our upstream emissions (S:3) ENERGY EFFICIENT PURCHASING PROCEDURE was established

for procurement activities. With the studies carried out in this context, taking into account energy efficiency at the procurement stage, etc. with process innovations such as integration and minimization of logistics activities, emphasis on environmentally friendly technologies in the selection of machinery / equipment, etc. applications are activated. It is planned to create some indicators in the upcoming period in order to monitor and report the outcomes to be achieved.
Additional Info: Within the scope of ISO 50001 Energy Management System, purchasing of materials with certain criteria started to be carried out in accordance with the Energy Efficient Procurement Procedure as of 11.03.2021. Within the scope of energy efficient procurement, the purchases of items with high energy consumption, which are considered as Significant Energy Users (SPEs), are procured in accordance with the Energy Efficient Procurement (EVS) procedure.
With this system;
- Energy Efficient Purchasing option has been added to the Request for Quotation and Purchase Request screens so that the requester can mark and inform the purchasing staff.
- Since the purchasing units are responsible for purchasing the materials specified as Energy Efficient by the requester in this way, warning letters are provided on the purchasing screens so that the demands in the relevant product groups are not overlooked.

Impact of engagement, including measures of success

Supplier risk assessment studies have started as of August 2020, and the companies have been subject to risk assessments. Within the scope of supplier risks, the targets are:
* High Risk Critical Supplier Ratio: 0% *High Risk Supplier Ratio <1%
In order to appreciate the efforts of the suppliers, who have made extraordinary contributions to current activities, business continuity and success, it has been decided to evaluate the suppliers within the scope of their excellence in 3 different categories with the Supplier Award Program in 2021.
1) SUPPLIER EXCELLENCE AWARD
It covers suppliers who contribute greatly to ASELSAN's activities and success by providing organizational excellence in all managerial, operational, social and environmental practices.
2) SUPPLIER NATIONALIZATION AWARD
It covers suppliers who provide outstanding support to ASELSAN's nationalization efforts.
3) SUPPLIER SUSTAINABILITY AWARD
ASELSAN includes suppliers who have achieved outstanding success in environmental and social sustainability practices, which are highly valued. With the reward system, it is aimed to encourage suppliers to improve their processes and reduce sustainability risks.

Comment

ASELSAN also provides financial support to its suppliers. Sub-industry companies that have been approved within the scope of this application and whose cooperation has been continuing for a certain period of time, can only get an additional guarantee, guarantor, etc., by contacting the banks within the scope of the relevant system with the

orders.
They can have the opportunity to use credit and receive a letter of guarantee without citing a source.
94 companies within ASELSAN benefited from the Supplier Financing System, and a total of USD 134 million, was used.

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

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

% of customers by number

60

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

0

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

ASELSAN aims to grow, embrace globalization, create value for its customers, conduct R&D studies, remain competitive and efficient, and improve its human capital and financial structure. In this respect, we have built a Strategic Plan covering a five-year period. Accordingly, we have developed a compliance monitoring program within the Strategic Management System. We also carry out examinations, analyses and reporting to support our strategic decisions. World's leading defense industry companies, who provide the major portion of the defense needs of their country, lack of customer diversification caused by selling to mainly a single customer. The main client of the Company is the Public Institutions and Organizations, especially the Turkish Armed Forces. This situation is accompanied by the fact that the activities of the Company are generally directed towards the public demands of our country. It is aimed to reduce this risk by working on increasing the sales abroad and carrying the existing know-how to the civilian sectors. Such as: Civilian satellites, surface and underwater technologies, railway signalling and modernization, health systems, naval electro-optical systems, unmanned vehicle systems, advanced material for the energy systems covering electricity generation; transmission, distribution, consumption and management areas. ASELSAN realized 65 % of its total sales to the Turkish Armed Forces, 26% of its sales to private organizations or other corporate customers, and with 9% of its exports. We engage and raise our customers' awareness by information sharing on our products with the activities to offer system solutions, covering R&D, design, production, integration

and after-sales support by focusing on Energy Management and Smart Grid Systems and Renewable Energy Systems (solar, wind and hybrid systems). ASELSAN continues to rapidly expand its global effectiveness.
In 2020 the following information covering company's product and services was shared with customers:
Smart Cities Monitoring and Management system, Mobil Hybrid Energy Systems, Digitization of cities, Main line signalization system counter traffic jams,waste categorization, battery and electronic equipment disposal etc.

Impact of engagement, including measures of success

High quality standards and high technological solutions are offered for services or delivered products with regard to customer needs and expectations so as to meet customer satisfaction. Requirements of these quality standards are met and inspections, tests are applied through every process from projects' start till the delivery phases.
Our all processes are administered by directives, quality plans, standards, audits and test instructions. Our processes have been certified by internationally accepted standards such as AS 9100, ISO 9001, ISO 14001, ISO 14064, ISO 45001, AQAP and CMMI so that our products and services are secured to protect quality standards. These certificates are renewed every year with the audits performed. Changes and improvements of international standards are being followed and our processes are developed accordingly. Customer satisfaction, which is the primary objective, is evaluated and reported for the access of related executives. In addition, results and trends are evaluated by the upper management in an annual basis and required recovery activities are planned. In the reporting year; the company measured its customer satisfaction, and operated to ensure full customer satisfaction. Customers are notified of any delays in handling their requests. The company complied with the quality standards with respect to its products and services.
ASELSAN continues to rapidly expand its global effectiveness. The fruits of the Global Leadership Vision, which was put into practice two years ago, began to be reaped as of last year. 2020 has been a very productive activity period, in which the highest export collection was made, the most export orders were received, and the number of exporting countries was increased to 70.

C12.1d

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

ASELSAN received an award in the field of "Most Valuable Corporate Behavior" from Stevie Awards. ASELSAN, which has been working seriously since the first day of the Covid-19 pandemic process, won the Silver Award at the Stevie International Business Awards with its practices that add value to its employees and stakeholders.
ASELSAN's vision is to be a reliable, competitively preferred, environment-friendly and human conscious technology firm which preserves its sustainable growth in the global market via the values created for stakeholders, as well as serving its establishment purposes.
In order to achieve the sustainable growth:

• The quality and technological perspectives of the cooperation formed with the universities have been continued during the pandemic 2020.
• ASELSAN employees are provided with the opportunity to study in the work environment with the initiation of ASELSAN Academy Postgraduate on-line Training Program. The program serves the purpose of internalizing necessary technologies and developing existing technologies.
• The efforts to form an Eco-system with the sub-industry companies and SME's have continued.
• Company is continuing its operations in civil electronic areas which requires high technology.
Several universities were brought together through the ASELSAN Academy under the coordination of Council of Higher Education (YÖK), which became operational in 2018-2019, forming a cooperation model in a single program. The ASELSAN Academy Model allows the applicant (the ASELSAN employee), who applies for the graduate program and fulfills the necessary conditions, to take courses and conduct R&D activities about the projects they involve as part of their engineering roles within the company. In the reporting year, ASELSAN continued to grow its R&D activities in the framework of national goals, in areas such as energy, transportation, medical systems, and next generation cellular communication.
In the Technology Road-map and Investment Plan for 2021-2025, prepared in 2020, besides ASELSAN's main technologies, there are also innovation-oriented plans for the "Instant Innovation Opportunities", "Studies to be Carried Out within the ASELSAN Entrepreneurship Center" and "Supporting Postgraduate Theses by ASELSAN Academy". Investment activities for the Advanced Technology Electromagnetic and Microwave Laboratory and the Energy Systems Laboratory were initiated as of the last quarter of 2020. In 2020, R&D and design activities were carried out on power conversion in solar systems, and 250 kW array type photovoltaic inverter prototype production was completed. In addition, an agreement was signed with the UPS manufacturer Tescom.
Within the scope of Alaçatı Wind Power Plant Modernization, studies to develop a wind turbine platform with a minimum capacity of 4.0 MW were initiated. With ASELSAN's own resources for the development of full-scale power converters over MW.
Continuing cooperation with METU GÜNAM in the field of photovoltaic solar energy, developing new cell cutting techniques for Shingled PV modules and
PV module production has been included in the TÜBİTAK project.Production of hybrid energy system solutions that provide reliable, economical and clean energy from sun and wind continued. Delivery of the container-integrated, hybrid energy system GURU Compact solution to the Turkish Armed Forces has been carried out.
ASELSAN equity-supported R&D project was initiated to develop a hybrid renewable energy micro-grid system and R&D cooperation was established with METU-KKK in this field.
The Development Workshop Suggestion System, in which the "Sector Analysis" and "Business Excellence" working groups took an active role. Until 17 September 2020, a total of 1,424 suggestions were submitted. 1,089 of the submitted suggestions were considered as valuable and processed. Suggestions were made mostly in the categories of process improvement/productivity enhancing and employee motivation.
ASELSAN ranked second among 1,236 competing companies in the "Innovation Strategy" category in the "InovaLIG" Competition held by the Turkish Exporters' Assembly (TIM), where Innovation Leaders are determined every year in Turkey.

C12.3

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

Direct engagement with policy makers

Trade associations

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	We follow the implementation of the regulation on monitoring and reporting of GHG emissions that was published in 2012 and revised in 2014 very closely. Although ASELSAN is not yet included in the scope of this regulation, we still participate in meetings and our Sustainability Committee is ready to send our comments about the Communiqués that are related to this regulation.	We support the legislation and the communiques related to this legislation with no exceptions.
Cap and trade	Support	The cap and trade principle which is the cornerstone of the EU's policy to combat climate change is adopted by EU-ETS. For the purpose to be ready to the future commitment this system was taken in the agenda of Turkish Ministry of Environment & Urbanization. The second phase of Partnership for Market Readiness Project (PMR) meetings were completed. Implementation of phase 2 of the PMR builds on establishing the Climate Change Law and ETS Regulations with emission limits and allocation plans for pilot ETS. In the reporting year, ASELSAN stated her corporate views on these issues. Several number of stakeholder meetings and feedback rounds were conducted by the MoEU during the reporting period. The pilot implementation is expected to be realized between 2022-2023. In order to manage this risk ASELSAN's Board Chair assigned some sustainability committee members to participate the PMR meetings executed by the Ministry.	We closely follow up the PMR activities of MoEU.

		This communication will prepare our company to this upcoming system	
Other, please specify Zero Waste Project Support	Support	In order to prevent and minimize waste generation and ensure recycling, ASELSAN started to work voluntarily in May 2019 to implement the "Zero Waste Project" in all its campuses. The training was given to all workers and related staff who will take an active role in waste separation / collection. Within this implementation approximately 137 tons of waste will be recycled and brought into the economy every year. In this sense, it was the first defense industry company which started this project in Turkey. 2 months after the start of the works, the Zero Waste Regulation was issued by the Ministry of Environment and Urbanization of the Republic of Turkey and it was made compulsory for companies of the same scale to switch to the Zero Waste system by 2022. However, ASELSAN has quickly completed its work that it has already begun and became the first company to fully implement the Zero Waste Project in all its campuses on September 21, 2019. The added value provided by the Zero Waste Project to the environment in 2020 has been analyzed.	We support the legislation and the communiques related to this legislation with no exceptions. ASELSAN's on-site studies on this area are examples of legal practices.

C12.3b

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

No

C12.3f

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

Adopting a strategy in harmony with its vision and mission, ASELSAN aims to grow, embrace globalization, create value for its suppliers and customers, conduct R&D studies, remain competitive and efficient, and improve its human capital and financial structure. In this respect, we have built a Strategic Plan covering a five-year period. Accordingly, we have developed a compliance monitoring program within the Strategic Management System. We also carry out

examinations, analyses and reporting to support our strategic decisions. ASELSAN continues to be in regular dialogue with lawmakers and regulatory authorities. It participates the meetings of industry groups and trade associations. A transparent management of information sharing and policy dialogue is in place for direct and indirect activities that influence climate policy. In the last quarter of 2020, the Company's Board announced its intention to put an ambitious emissions reduction targets by 2050 and the enthusiasm to achieve them by a Climate Transition Action Plan. The planing and other actions will be discussed and developed during 2021-2022. Low carbon transition studies, new and emerging regulations, renewable energy related activities, supply chain security, Sustainable Development Goals of the UN and Paris Agreement Requirements with related compliance items is under the coordination of Sustainability Committee. For the year 2021, the decision of presiding the Sustainability Committee by the Board Chair/CEO was made by the board executives.

According to our new corporate communication strategy, all communication activities have to be approved by our CEO/ Board Chairman. Moreover, our Sustainability Committee together with our Strategic Planning and Corporate Performance Directorate are responsible of setting and tracking actions to ensure our direct and indirect activities are consistent with our overall climate change strategy.

Climate Change Management Unit has been established under the roof of Integrated Management Systems. This unit carries out the coordination, reporting and monitoring processes of all climate engagement activities across business divisions and external official institutions and organizations.

ASELSAN maintains its communication with its suppliers, which it considers among the most important rings of its value chain, through the Supplier Portal. ASELSAN has developed a pioneering and innovative platform to strengthen the bond with its suppliers, increase the effectiveness of nationalization efforts, further reduce foreign dependency and carry out sustainable cooperation under an integrated roof. This platform called " Powerful Together" was put into use in April 2020. Activities such as receiving offers, managing the quality process, product procurement process, training, inspection processes, supplier report and announcements are carried out with this platform infrastructure. Thus, suppliers are integrated into the supply chain through the platform. There is a constant flow of information as communication and meetings, between the groups and the CEO.

ASELSAN is placed in the A- list according to 2019 results, among the firms that most successfully manage climate change risks through production process and has the highest ghg emission performance on the outcome of the research conducted by evaluating big firms including firms listed on Borsa İstanbul.

In ASELSAN, where decreasing carbon emission is one of the strategic goals, carbon emission has been monitored since 2009. Also, ASELSAN is the first and only company that is ranked with the highest initial score among Defense Industry firms in Turkey by participating in CDP survey.

ASELSAN has decreased carbon emission significantly through its efforts, and continues its operations by increasing momentum in the fields of increasing energy efficiency in production, giving priority to production technologies that decrease carbon emission, switching to use of energy that does not cause carbon emission.

The verification of Energy Management System ISO 50001:2018 in our facilities was realized in May 2021.

In November 2014, Borsa Istanbul (BIST) has launched Sustainability Index that display the performance of January-March 2014 time period for BIST-30 firms in the fields of financial, environmental, social issues and corporate governance. With respect to that, as of this date, ASELSAN started publishing sustainability reports. As a result of the evaluation of our Company on the ASELSAN Sustainability Report, published in Turkish and English for the first time before the Index assessments, ASELSAN was among the 15 firms that were approved to be included in BIST Sustainability Index. In 2019 ASELSAN was the first company to initiate the zero-waste project in Turkey. The evaluation of corporate governance rating performed by SAHA Corporate Governance and Credit Rating Services was confirmed as 9.29 out of 10 on 11.12.2020.

C12.4

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

Publication

In mainstream reports

Status

Underway – previous year attached

Attach the document

2019_ASELSAN Annual_Report.pdf

Page/Section reference

2019_ASELSAN Annual_Report pages:
Governance: 20-21
Strategy : 38
Enterprise Risk Categories: 85-86

Content elements

Governance
Strategy
Risks & opportunities

Comment

ASELSAN Annual Report 2020 will be available on the company's website as of August 2021.
https://www.aselsan.com.tr/en/investor-relations/annual-reports

Publication

In voluntary sustainability report

Status

Complete

Attach the document

2020 ASELSAN Sustainability Report.pdf

Page/Section reference

2020 ASELSAN Sustainability Report and pages.
Corporate Governance: 40
Risk Management: 48
Environmental Responsibilities:112
Emissions and Energy 114
Water Management:118
Waste Management:119
Green Solutions in Operations:123

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets

Comment

ASELSAN Sustainability Report 2020 is available on the company's website
https://www.aselsan.com.tr/en/investor-relations/corporate-governance/sustainability

C15. 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.

C15.1

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

	Job title	Corresponding job category
Row 1	Corporate Management Vice President	Board/Executive board

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

Please confirm below

I have read and accept the applicable Terms