# CC0. Introduction

## CC0.1: Introduction

ASELSAN was founded in 1975 with the aim of creating a self-sufficient industry primarily for defense requirements of Turkish Armed Forces. ASELSAN, with tremendous success in the past decades in expanding systematically into the local and global markets, today, with over $1B in revenue and 4200 employees 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. Through dedication of utmost importance to R&D activities clearly seen by allocation of remarkable portion of its annual revenue and through its technological know-how, ASELSAN has achieved the capability to undertake large-scale system integration projects and succeed, in many cases, in developing most sophisticated products.

For the last four years, ASELSAN sustained its position in the world as being in the list of Top 100 Defense Companies. Our objective is to become one of the top 50 defense companies in the world through the development of original and national opportunities and talents of the highest level.

ASELSAN operates under four divisions:

- Communications and Information Technologies Division (HBT): Tactical Radios, Tactical Area Communication Systems, Avionic, Satellite and Naval Communication Systems, Public Safety Communication Systems
- Radar, Electronic Warfare and Intelligence Systems Division (REHIS): Radar Systems, Electronic Warfare Self Protection Systems, Electronic Warfare Intelligence and Attack Programs
- Defense Systems Technologies Division (SST): Weapon Systems, Command Control (C4ISR) Systems, Naval Combat Systems, Traffic Systems
- Microelectronics, Guidance & Electro-Optics Division (MGEO): Electro-Optic Systems, Navigation & Guidance, Avionic Systems, Microelectronics

## CC0.2: Reporting Year

01/01/2013-31/12/2013

## CC0.4: Currency selection

TL

## CC0.5: Please select if you wish to complete a shorter information request

No

# CC1. Governance

# Group and Individual Responsibility

## *CC1.1 Where is the highest level of direct responsibility for climate change within your organization?*

Senior Manager/Officer

## CC1.1a Please identify the position of the individual or name of the committee with this responsibility

The highest level of direct responsibility for climate change within ASELSAN lies with the Director of Strategy Management Directorate Mr. Baki Şensoy. Mr. Şensoy also leads the Sustainability Committee which was founded in 2012. The Sustainability Committee is comprised of high level managers and engineers who are able to assess all the risks and opportunities with respect to climate change. The list of members of the sustainability committee is given below:

| | |
|---|---|
| Baki ŞENSOY | Strategy Management Directorate / Director |
| Tuncay İBİŞ | Facilities and Services Directorate / Director |
| Pınar ÇELEBİ | Investor Relations and Subsidiaries Department / Manager |
| Tolga KANIMTÜRK | Corporate Strategy Development Department / Manager |
| Burak GÜVENÇ | Facilities and Services / Manager |
| Mehmet Ali BERK | Information Systems Department / Manager |
| Devrim AKSU | Human Resources Department/Manager |
| Ali Rıza KILIÇ | Supply Chain Management Department / Manager |
| Melih BOYNUKISA | Internal Audit and Assessment Directorate / Vice President |
| Hülya YILDIRIM | Health and Safety Department /Chief Engineer |
| Fatih ÇAĞIRAN | Information Systems Directorate-Work Intelligence Chief Engineering /Chief |
| Didem L. ÖZKAN | Strategic Planning and Corporate Performance Department /Senior Expert Engineer |
| Koray GÜRE | Corporate Strategy Development Department / Senior Expert Engineer |
| Gaye ÖZPİNECİ | Human Resources Department/Senior Expert |
| Başak YÜCEKAYALI | Investor Relations and Subsidiaries Department /Expert |

The Sustainability Committee develops and implements economic, environmental and social sustainability strategies and monitors the overall sustainability performance of the company. In order to monitor the environmental performance, environmental performance indicators have been identified. Some of these performance indicators are related to climate change performance.

Also starting from 2013 the Sustainability Committee has attained targets related to climate change performance to each directorate. The status of achievement of these targets are being closely monitored by the Sustainability Committee. The Sustainability Committee also decides on the incentives to be given for attaining the climate change and other sustainability related targets.

# Individual Performance

## *CC1.2 Do you provide incentives for the management of climate change issues, including the attainment of targets?*

Yes

*If yes:*

## *CC1.2a Please provide further details on the incentives provided for the management of climate change issues*

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator |
|---|---|---|
| All employees | Monetary reward | In ASELSAN, we have implemented a suggestions system in our intranet in 2013. This suggestion system is called "Idea Management System" and can be used by all of the employees of ASELSAN. An employee who has an innovative idea on climate change, energy efficiency or any other subject can send his/her idea note to the strategy department through this suggestion system. The strategy department then evaluates the idea and if they decide that the idea is plausible, the Strategy Department shares the idea note with the related department.<br><br>The employee is entitled to a monetary reward if their idea is assessed to be applicable and profitable to the company.<br><br>The reward is higher if the idea of the employee |

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator |
|---|---|---|
| | | results in energy savings thus leading to emission reductions. |
| | | |

# CC2. Strategy

# Risk Management Approach

## *CC2.1 Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities*

Integrated into multi-disciplinary company wide risk management processes

## *CC2.1a Please provide further details on your risk management procedures with regard to climate change risks and opportunities*

| Frequency of monitoring | To whom are results reported? | Geographical areas considered | How far into the future are risks considered? | Comment |
|---|---|---|---|---|
| Annually | Individual/Sub-set of the Board or committee appointed by the Board | Turkey | > 6 years | The identified risks related to climate change as well as other identified risks are monitored annually to assess the severity of the risk. In ASELSAN the risks are first assessed in the facility and activity level. The risks are given a score from 1 to 5 according to their severity and probability of occurrence. The combined risk score |

| Frequency of monitoring | To whom are results reported? | Geographical areas considered | How far into the future are risks considered? | Comment |
|---|---|---|---|---|
| | | | | is found by multiplying the severity and probability scores of the risk. The risk is level 1 if combined score is between 1 and 5. Level 2 if combined score is between 6 and 10. Level 3 if combined score is between 11 and 15. Level 4 if combined score is between 16 and 20. Level 5 if combined score is between 21 and 25. Only the risks that are assessed to be Level 4 or higher are reported to the Board of Directors. |

## *CC2.1b Please describe how your risk and opportunity identification processes are applied at both company and asset level*

1. At the company level, the scope of the identified risks and opportunities include, changes in fuel and energy prices, climate change related laws and regulations, global competitiveness, changing customer needs, potential threats of national security and employee related issues.

   The climate change related risks and opportunities at the company level are assessed by the sustainability committee. The Sustainability Committee is responsible for identifying measures to reduce the risks. This committee is responsible for identifying the level of each risk, setting targets to reduce these risks and making performance reviews to assess whether the climate change related targets are met. This committee also decides on how and when the identified opportunities can be seized. The committee decides which risks and opportunities shall be reported to the Board of Directors according to the scoring methodology given in section CC2.1.c.

2. At the asset level, each facility and every unit in each facility has to perform the risk analysis using the methodology and scoring system defined in section CC2.1.c. The facility level risk analyses are then reviewed by the facility managers and submitted to the Sustainability Committee for final review. The committee decides which risks and opportunities shall be reported to the Board of Directors according to the scoring methodology given in section CC2.1.c.
   The major risks and opportunities at the asset level are the events that may have a major effect on the GHG emissions of ASELSAN. These events usually are related to energy and fossil fuel consumption.

Where renovations in product design that lead to less energy consumption may be assessed as an opportunity, increased consumption of fossil fuels during production is assessed as a major climate change related risk.

## CC2.1c How do you prioritize the risks and opportunities identified?

First, the probability of occurrence of the identified risk is scored as given below:

| Probability | Score |
|---|---|
| **Very low/impossible** | **1** |
| **Low** | **2** |
| **Moderate** | **3** |
| **Probable** | **4** |
| **Very High Probability** | **5** |

Then, the effect of the identified risk event is determined:

| Severity | Severity Level Guide | Score |
|---|---|---|
| **Very low** | No permanent or significant effect. | **1** |
| **Low** | Significant impact on ASELSAN in the long term. (≥8 years) | **2** |
| **Moderate** | Significant impact on ASELSAN but can be managed without a major impact in the medium to longer term. (4-8 years) | **3** |
| **High** | Requires major effort to manage and resolve in the short term or risk events that could threaten the existence and the profit of ASELSAN. (1-3 years) | **4** |
| **Very High** | Threatens the business continuity immediately. | **5** |

The total score is found by multiplying the effect and probability factors. Which gives a numerical value between 1 and 25.According to this final score the risks and opportunities are prioritized::

| Combined Score | Risk Level | Related Action |
|---|---|---|
| 1-5 | Level 1 | No immediate action. |
| 6-10 | Level 2 | No immediate action but the risk event needs to be monitored annually. |
| 11-15 | Level 3 | The mitigation measures for the identified risk event is determined by the sustainability committee. |
| 16-20 | Level 4 | Poses a threat and shall be dealt with. The risk event and the measures to be applied are reported to the Board of Directors. |
| 21-25 | Level 5 | Poses a huge threat and shall be immediately dealt with. The risk event and the measures to be applied are immediately reported to the Board of Directors. |

Sustainability committee reviews and finalizes all climate change related risk analysis, and presents the critical risks that are assessed to be Level 4 or above to the Board of Directors. 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.

# Business Strategy

## CC2.2 Is climate change integrated into your business strategy?

☒Yes

☐No

### If yes:

### CC2.2a Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process **(CDP 2013 Q2.2a, amended)**

Climate change has come into the attention of ASELSAN starting with the first invitation from CDP Turkey in 2012. Although energy efficiency was a focal point for the operations in ASELSAN, the effects of these energy efficiency studies on climate change was never calculated. Starting from 2012 the ASELSAN strategy team has focused on climate change. First step was the calculation of our GHG Inventory. During the CDP period a very quick calculation was made for the years 2009-2010-2011 for the purpose of reporting to CDP. The risks and opportunities related to climate change has already been implemented to the company-wide risk analysis since 2012.

The strategies of ASELSAN is determined for a 5 year period, and are revised annually. The strategies are determined taking performance assessment results of previous years into consideration, with the guidance of the major shareholder of ASELSAN, Turkish Armed Forces Foundation (TAFF), Board of Directors and CEO. As the corporate performance system is a vivid system, it enables us to continuously improve and monitor our performance. The reviews are reported on a monthly basis.

As the strategy of ASELSAN is determined for a period of 5 years, climate change related issues could not be included in the strategy up until the year 2014. However during the strategy planning meetings in 2013 the Strategy Management Directorate has implemented the climate change related issues into the strategy of the term 2014-2018. As a part of this strategy the GHG emissions of ASELSAN are planned to be reduced by the end of 2018. As a result of this strategic decision, we have started the studies for 2013 GHG Inventory in the beginning of 2014. As a part of these studies we have decided to use 2013 as the base year, and set our emission reduction targets according to this base year. The emission reduction targets are determined in 2014 and

these targets will be monitored within the scope of corporate performance management activities between 2014-2018.

The most important component of our short term business strategy related to climate change is the decision of calculating our GHG emissions and reporting to CDP. We believe the brand value and market value of ASELSAN will be positively affected with the implementation of these decisions.

ASELSAN has been in BIST-30 Index and Corporate Governance Index of Borsa Istanbul (BIST) since January 2013. Both indices are considered to be prestigious indices of BIST as big, corporate industrial firms, holdings and banks dominate them. Corporate governance rating is a prerequisite for presence in Corporate Governance Index of BIST and with the latest revisions in Corporate Governance Principles; sustainability has become a new dimension for corporate governance rating of companies. Thus, climate change aspect is now embedded in our corporate governance rating.

ASELSAN management values ASELSAN share's presence in BIST-30 and Corporate Governance Index of BIST. In addition to this, there are long term institutional investors in ASELSAN's investor base. These facts are other implications of the value we attach to climate change and energy efficiency.

# Engagement with Policy Makers

*CC2.3 Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)*

☒Direct engagement with policy makers

☐Funding research organizations

☒Trade associations

☐Other

☐No

*If "Direct engagement with policy makers" is ticked:*

*CC2.3a 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 regulation on monitoring and reporting of GHG emissions that was published on 2012 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 communiques that are related to this regulation. | For the moment we support the legislation and the communiques related to this legislation with no exceptions. |
| Energy efficiency | Support | We have sent our comments to the energy efficiency law no 5627 by the Ministry of Energy and Natural Resources during its preparation stage. We fully support this law. | We fully support the energy efficiency law and the related by-laws. |

*If "Trade associations" is ticked:*

*CC2.3b Are you on the Board of any trade associations or provide funding beyond membership?*

☐Yes

☒No

*If "Direct engagement", "Trade associations", "Funding research organizations" or "Other" is ticked:*

*CC2.3h 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?*

Our climate change strategy was still being developed in 2013. We are planning to inform all of our employees regarding our climate change strategies and climate change related activities using our intranet. To minimize the risk of conflicts, only the sustainability committee members will be authorized to engage with policy makers and other institutions on climate change related issues.

# CC3. Targets and Initatives

## Targets

### *CC3.1 Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?*

☐Absolute target

☐Intensity target

☐Absolute and intensity target

☒No

*If you do not have a target:*

#### *CC3.1e Please explain:*

##### *(i) why you do not have a target;*

Although ASELSAN had previous efforts on the compilation of the activity data and calculation of GHG emissions for the Macunköy facility, due to the uncertainties related with the activity data and previously used emission factors, we have decided to take 2013 as the base year for Scope 1-2 and 3 GHG emissions. As 2013 is selected as the base year, all the emission reduction targets are set according to this year hence no emission reduction targets were active during the base year.

##### *(ii) forecast how your emissions will change over the next five years*

We have set emission reduction targets for the next five years according to our business strategy plan for 2014-2018. We also plan to include all our facilities in Turkey in our GHG inventory starting from the year 2014. Energy efficiency is one of the focal points of the sustainability committee and we already have ongoing projects to reduce energy consumption in ASELSAN facilities. However we also have ongoing and planned new investments which may result in the overall increase in the absolute emissions of ASELSAN. In the next five years we forecast that our absolute emissions will increase however our emissions normalized to an intensity figure like unit revenue or number of employees will have a decreasing trend.

# Emissions Reduction Initiatives

## *CC3.2 Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?*

☐Yes

☒No

## *CC3.3 Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)*

☒Yes

☐No

*If yes, complete questions CC3.3a, CC3.3b and CC3.3c:*

### *CC3.3a Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated $CO_2e$ savings*

| Stage of development | Number of projects | Total estimated annual $CO_2e$ savings in metric tonnes $CO_2e$ (only for rows marked *) |
|---|---|---|
| Under investigation | 0 | 0 |
| To be implemented* | 0 | 0 |
| Implementation commenced* | 0 | 0 |
| Implemented* | 3 | 1,607.49 |
| Not to be implemented | 0 | |

# Management

*CC3.3b For those initiatives implemented in the reporting year, please provide details in the table below* ***(CDP 2013 Q 3.3b, amended)***

| Activity type | Description of activity | Estimated annual $CO_2e$ savings (metric tonnes $CO_2e$) | Annual monetary savings (unit currency – as specified in CC0.4) | Investment required (unit currency – as specified in CC0.4) | Payback period | Estimated lifetime of the initiative, years | Comment |
|---|---|---|---|---|---|---|---|
| Energy efficiency: Building services | TR3 transformer station UPS room cooling revision. This project results in Scope 2 GHG emission reductions. The project is done voluntarily. | 9.54 | 4,800.00 TL | 400.00 TL | <1 year | 10 years | Using prepared cooled air from environment without using more energy |
| Energy efficiency: Building services | TR4 transformer station UPS room cooling revision. This project results in Scope 2 GHG emission reductions. The project is done voluntarily. | 71.55 | 12.000,00 TL | 10.000,00 TL | <1 year | 10 years | Using prepared cooled air from environment without using more energy |
| Energy | Using an | 1,526.40 | 1.200.000,00 | 300.000,00 TL | <1 year | 10 years | We closed |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| efficiency: Building services | automated system for air conditioning plants. This project results in Scope 2 GHG emission reductions. It also results in minor Scope 1 GHG emissions, as less fugitive cooling gases will be released. The project is done voluntarily. | | TL | | | | cooling and ventilating systems when we were in transition periods like spring and autumn months, so we use "zero" energy for air conditioning rooms. |

## *CC3.3c What methods do you use to drive investment in emissions reduction activities?*

| Method | Comment |
|---|---|
| Financial optimization calculations | In ASELSAN our energy use is one of our main resources. Therefore we constantly try to develop projects that increase energy efficiency. When we have a project idea, the related directorate makes a detailed 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 certain project.<br><br>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. |

# CC4. Communications

## *CC4.1 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)*

**(CDP 2013 Q 4.1, amended)**

| Publication | Page/Section reference | Attach the document |
|---|---|---|
| In voluntary communications (complete) | 28 | Anahtar Dergisi |
| In voluntary communications (complete) | Page 42 | Sürdürülebilirlik Raporu |

# CC5. Climate Change Risks

*CC5.1 Have you identified any climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? (Tick all that apply)* ***(CDP 2013 Q5.1, amended)***

☒ Risks driven by changes in regulation

☒ Risks driven by changes in physical climate parameters

☒ Risks driven by changes in other climate-related developments

*CC5.1a: Please describe your risks driven by changes in regulation*

| | **RD-ID: 01** | **RD-ID: 02** |
|---|---|---|
| **Risk driver** | Fuel/energy taxes and regulations | Product labelling regulations and standards |
| **Description** | Turkey has ratified the Kyoto Protocol in 2009 and reports its emissions to UNFCCC. Although Turkey does not have a cap on its GHG emissions, changes in the global climate regulations may force Turkey to have an emission cap which may result in changes in the tax regime. A new taxation system for non-renewable power plants will result in a rise in energy prices which may eventually increase our operational costs. | In ASELSAN one of our primary goals is to increase our activities as sub-contractors of major defense industry companies in Europe and US by providing our services in such a way that enables us to contribute to the development of global defense industry. However as the environmental regulation especially in Europe is far more advanced than the one we have in Turkey, soon we may face product labeling requirements. We may need to assess the carbon footprint of all the products that we wish to produce as sub-contractors of European and American companies. This may force us to perform a more detailed and enhanced analysis on our systems, including the environmental effects of our systems throughout the whole life cycle of the system (i.e. a detailed LCA)<br><br>Or we may need to comply with Eco-labeling standards such as EPDs in order to |

| | | |
|---|---|---|
| | | be able to export our products and systems to US and Europe, which may force us to make changes in product design to be able to compete with our competitors. |
| **Potential impact** | Increased operational cost | Increased operational cost |
| **Timeframe** | > 6 years | > 6 years |
| **Direct/Indirect** | Indirect (Supply Chain) | Direct |
| **Likelihood** | Likely | More likely than not |
| **Magnitude of impact** | Low | Low |
| **Estimated financial implications** | 10% raise in energy prices will result in 0.8% raise in our operational expenses. | It is expected that these type of requirements will not exceed 0.5% of our OPEX. |
| **Management method** | We are researching opportunities of generating a part of our own energy from renewable resources on our premises. | We are closely following up 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.<br>ASELSAN is very meticulous in such actions and in the past many standards or reporting schemes like ISO 27001, CDP, CMMI (Capability Maturity Model Integration) have been applied even before it was asked for by our clients. |
| **Cost of management** | Generation of our own energy will require purchasing solar panels. As the project is in idea stage the related costs are not determined. | As we are not taking any immediate action at the moment, there are no related costs of management. In the coming years, costs related to Life Cycle Analysis or Environmental Product Declarations may arise. |

# Risks & Opportunities

## CC5.1b: Please describe your risks that are driven by change in physical climate parameters

| | RD-ID: 04 |
|---|---|
| **Risk driver** | Change in temperature extremes |
| **Description** | Changes in temperature extremes may result in more cooling demand in the summer months and more heating demand in the winter.<br>This change may result in the increase of our operational expense. |
| **Potential impact** | Increased operational cost |
| **Timeframe** | > 6 years |
| **Direct/Indirect** | Direct |
| **Likelihood** | More likely than not |
| **Magnitude of impact** | Low |
| **Estimated financial implications** | As the energy expenses constitute 8% of our OPEX, this risk may result in raise in the energy expenses. A 50% rise will result in energy expenses that constitute 12% of our OPEX. |
| **Management method** | Enhancing building and infrastructure isolation. |
| **Cost of management** | The costs associated for management of this risk has not been calculated yet. |

# Risks & Opportunities

## CC5.1c: Please describe your risks that are driven by changes in other climate-related developments

| | RD-ID: 04 |
|---|---|
| **Risk driver** | Changing consumer behaviour |
| **Description** | Consumers (the companies that we are sub-contracting for) in Europe and USA are inclined to purchase more climate friendly products. As we intend to increase our activities as sub-contractors of major defense industry companies in Europe and US, we may need to make a detailed assessment on the effects of our products on climate change in order to be able to compete with our competitors. |
| **Potential impact** | Reduced demand for goods/services |
| **Timeframe** | > 6 years |
| **Direct/Indirect** | Direct |
| **Likelihood** | About as likely as not |
| **Magnitude of impact** | Low-medium |
| **Estimated financial implications** | It is expected that this type of requirements will not exceed 0.5% of our OPEX. |
| **Management method** | We are closely following up 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 is turned into a regulatory obligation.<br>ASELSAN is very meticulous in such actions and in the past many standards or reporting schemes like ISO 27001, CDP, CMMI (Capability Maturity Model Integration) have been applied even before it was asked for by our clients. |
| **Cost of management** | As we are not taking any immediate action at the moment, there are no related costs of management. In the coming years, costs related to Life Cycle Analysis or Environmental Product Declarations may arise. |

# CC6. Climate Change Opportunities

## *CC6.1 Have you identified any climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? (Tick all that apply)*

☒ Opportunities driven by changes in regulation

☒ Opportunities driven by changes in physical climate parameters

☒ Opportunities driven by changes in other climate-related developments

### *CC6.1a: Please describe your opportunities that are driven by changes in regulation*

| | **OD-ID: 01** |
|---|---|
| **Opportunity driver** | Emission reporting obligations |
| **Description** | Turkey already has started developing an MRV system for GHG emissions of companies. Taking early action will help ASELSAN to be ready for future legislative issues that the company may face.<br><br>Also BIST has recently announced that they will start up a sustainability index for those companies listed in BIST-30 index in 2014. BIST will be ranking BIST-30 companies with respect to their sustainability efforts. Companies' response to climate change plays an important role for this index.<br><br>Thus, our GHG related actions will result in getting higher scores in the Sustainability Ranking of BIST. This will increase the interest on the investor's side and may eventually result in raise in market value of ASELSAN. |
| **Potential impact** | Increased stock price (market valuation) |
| **Timeframe** | 1 to 3 years |
| **Direct/Indirect** | Direct |

| | |
|---|---|
| **Likelihood** | About as likely as not |
| **Magnitude of impact** | Low |
| **Estimated financial implications** | We believe our studies on climate change will help us to positively differ from the companies that don't carry out such studies and are listed in BIST30 Index. Our efforts in sustainability will positively affect the valuation and investor sentiment of ASELSAN as a good number of our shareholders are long term institutional investors. Any dimension adding value to sustainability of ASELSAN is of importance. Hence, we consider the importance we attach to GHG related actions is a crucial dimension. |
| **Management method** | We are planning to enhance our GHG related studies by including all of our facilities in our inventory. We are also planning on getting certified in ISO 14064-1 in the coming years. |
| **Cost of management** | We have not started investigating the cost of consultancy and ISO certification, hence the costs of management are not yet determined. |

## *CC6.1b: Please describe the opportunities that are driven by changes in physical climate parameters*

| | **OD-ID: 02** |
|---|---|
| **Opportunity driver** | Change in precipitation extremes and droughts |
| **Description** | Climate scientists project that climate change will result in water scarcity and droughts. It is expected that throughout the world there will be drop in agricultural yields and water scarcity will increase. This may force people to immigrate to more fertile grounds. Therefore the governments of some countries may feel the need to improve border security as well as public security and surveillance systems. The countries may need to enhance the security of water resources, and surveillance of the area using satellites. These events may result in a global request for existing services of many industries including the defense industry. |
| **Potential impact** | Increased demand for existing goods/services |
| **Timeframe** | > 6 years |

| | |
|---|---|
| **Direct/Indirect** | Indirect (Client) |
| **Likelihood** | Likely |
| **Magnitude of impact** | Low-medium |
| **Estimated financial implications** | We are projecting 5% raise in security systems sales. |
| **Management method** | No management is necessary for the identified opportunity as it doesn't require a major investment. |
| **Cost of management** | No major cost as the identified opportunity can be handled using existing resources.. |

## *CC6.1c: Please describe the opportunities that are driven by changes in other climate-related developments*

| | **OD-ID: 03** |
|---|---|
| **Opportunity driver** | Changing consumer behaviour |
| **Description** | As climate change is one of the biggest challenges humanity is facing, consumers are becoming more and more environmentally aware. We are working on projects to enhance the efficiency of the vehicles used in personal and public transportation. (i.e. electric vehicles, less energy consuming subway trains, etc.)Producing new and more climate friendly products may be a good opportunity for us to gain new clients. |
| **Potential impact** | New products/business services |
| **Timeframe** | > 6 years |
| **Direct/Indirect** | Direct |
| **Likelihood** | More likely than not |
| **Magnitude of impact** | Low-medium |

# Risks & Opportunities

| | |
|---|---|
| **Estimated financial implications** | Financial implications of these projects are not yet evaluated. |
| **Management method** | R&D activities for new climate friendly product lines. |
| **Cost of management** | The R&D activities have not yet started hence the cost of management is unknown. |

# CC7. Emissions Methodology

## Base year

### *CC7.1 Please provide your base year and base year emissions (Scopes 1 and 2)*

| Base Year | Scope 1 Base year emissions (metric tonnes CO2e) | Scope 2 Base year emissions (metric tonnes CO2e) |
|---|---|---|
| From01-Jan-13<br>To 31-Dec-13 | 3,684.42 | 22,360.68 |

## Methodology

### *CC7.2 Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions*

| |
|---|
| ISO 14064-1 |
| The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) |
| Choose an item. |

### *CC7.3 Please give the source for the global warming potentials you have used*

| Gas | Reference |
|---|---|
| CH4 | IPCC Fourth Assessment Report (AR4 - 100 year) |
| N2O | IPCC Fourth Assessment Report (AR4 - 100 year) |
| HFCs | IPCC Fourth Assessment Report (AR4 - 100 year) |

# Emissions Data

| | |
|---|---|
| CO2 | IPCC Fourth Assessment Report (AR4 - 100 year) |
| Other, please specify | Choose an item. |

## *CC7.4 Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page*

| Fuel/Material/Energy | Emission Factor | Unit | Reference |
|---|---|---|---|
| Electricity | 0.69095 | metric tonnes CO2e per MWh | TEIAS & myclimate Turkiye |
| Natural gas | 0.20607 | metric tonnes CO2e per MWh | ecoinvent v.2.2 |
| Diesel/Gas oil | 0.00267 | metric tonnes CO2e per liter | ecoinvent v.2.2 |
| Liquefied petroleum gas (LPG) | 0.00302 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Motor gasoline | 0.00239 | metric tonnes CO2e per liter | ecoinvent v.2.2 |
| Other, please specify R 134A | 1,430 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify R 407C | 1,774 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify R 410A | 2,087.5 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify R 22 | 1,810 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify R 12 | 10,900 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify HFC 227 (FM 200) | 2,900 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |
| Other, please specify NAF P IV | 340 | metric tonnes CO2e per metric tonne | ecoinvent v.2.2 |

# CC8. Emissions Data Boundary

*CC8.1 Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory*

Operational control

# Scope 1 and 2 Emissions Data

*CC8.2 Please provide your gross global Scope 1 emissions figures in metric tonnes $CO_2e$*

3,684.42

*CC8.3 Please provide your gross global Scope 2 emissions figures in metric tonnes $CO_2e$*

22,360.68

*CC8.4 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

*If yes:CC8.4a Please 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 | Relevance of Scope 1 emissions from this source | Relevance of Scope 2 emissions from this source | Explain why the source is excluded |
|---|---|---|---|
| Akyurt Facility | Emissions are relevant but not yet calculated | Emissions are relevant but not yet calculated | In order to obtain accurate activity data, this facility will be included in the scope of |

# Emissions Data

| | | | |
|---|---|---|---|
| | | | this study starting from 2015. |
| Teknokent Facility (METU) | Emissions are relevant but not yet calculated | Emissions are relevant but not yet calculated | In order to obtain accurate activity data, this facility will be included in the scope of this study starting from 2015. |
| Marine Systems Directorate (Istanbul) | Emissions are relevant but not yet calculated | Emissions are relevant but not yet calculated | In order to obtain accurate activity data, this facility will be included in the scope of this study starting 2015. |
| Traffic Systems Directorate (Izmir) | Emissions are relevant but not yet calculated | Emissions are relevant but not yet calculated | This directorate will not be included in our GHG Inventory even in the later stages at it will be shut down in 2014. |
| Golbasi Facility | Emissions are relevant but not yet calculated | Emissions are relevant but not yet calculated | Golbasi Facility is still under construction and will not be operationally in use until late 2014. Therefore, it will not be included in the inventory before 2015. |

# Data Accuracy

*CC8.5 Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations*

| Scope 1 emissions: Uncertainty range | Scope 1 emissions: Main sources of uncertainty | Scope 1 emissions: Please expand on the uncertainty in your data | Scope 2 emissions: Uncertainty range | Scope 2 emissions: Main sources of uncertainty | Scope 2 emissions: Please expand on theUncertainty in your data |
|---|---|---|---|---|---|
| More than 2% but less than or equal to 5% | Metering/ Measurement Constraints and uncertainties related to emission factors | Uncertainties related to activity data and emission factors have been included in the uncertainty calculations. The uncertainty of Scope 1 and Scope 2 emissions have been calculated using GHG protocol's uncertainty tool.<br><br>Scope 1 emissions uncertainty is calculated as 2.6%.<br><br>The overall uncertainty of the Scope 1 and 2 emissions is calculated as 4.5 % | More than 5% but less than or equal to 10% | Metering/ Measurement Constraints | Uncertainties related to activity data and emission factors have been included in the uncertainty calculations. The uncertainty of Scope 1 and Scope 2 emissions have been calculated using GHG protocol's uncertainty tool.<br><br>Scope 2 emissions uncertainty is calculated as 5.1%<br><br>The overall uncertainty of the Scope 1 and 2 emissions is calculated as 4.5 % |

# External Verification or Assurance

*CC8.6 Please indicate the verification/assurance status that applies to your reported Scope 1 emissions*

No third party verification or assurance

*CC8.7 Please indicate the verification/assurance status that applies to your reported Scope 2 emissions*

No third party verification or assurance

# Carbon Dioxide Emissions from Biologically Sequestered Carbon

*CC8.9 Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?*

NO

# CC9. Scope 1 Emissions Breakdown

*CC9.1: Do you have Scope 1 emissions sources in more than one country?*

*No*

*CC9.2 Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)*

☐By business division (CC9.2a)

☐By facility (CC9.2b)

☐By GHG type (CC9.2c)

☒By activity (CC9.2d)

☐By legal structure (CC9.2e)

### *CC9.2d: Please break down your total gross global Scope 1 emissions by activity*

| Activity | Scope 1 emissions (metric tonnes $CO_2e$) |
|---|---|
| Stationary Combustion | 2,195.72 |
| Mobile Combustion | 829.56 |
| Fugitive Emissions | 659.15 |

# CC10. Scope 2 Emissions Breakdown

### *CC10.1 Do you have Scope 2 emissions sources in more than one country?*

*No*

### *CC10.2 Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)*

☐By business division (CC10.2a)

☒By facility (CC10.2b)

☐By activity (CC10.2c)

☐By legal structure (CC10.2d)

# Emissions Data

### *CC10.2b: Please break down your total gross global Scope 2 emissions by facility*

| Facility | Scope 2 emissions (metric tonnes $CO_2e$) |
|---|---|
| Macunkoy Facility | 22,360.68 |
| | |
| | |

# CC11. Energy

### *CC11.1 What percentage of your total operational spend in the reporting year was on energy?*

More than 5% but less than or equal to 10%

### *CC11.2 Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year*

| Energy type | MWh |
|---|---|
| Fuel | 13,670.42 |
| Electricity | 32,362.24 |
| Heat | 0 |
| Steam | 0 |
| Cooling | 0 |

# Emissions Data

*CC11.3 Please complete the table by breaking down the total "Fuel" figure entered above by fuel type*

| Fuels | MWh |
|---|---|
| Natural gas | 9,947.669 |
| Diesel/Gas oil | 3,485.023 |
| Liquefied petroleum gas (LPG) | 5.895 |
| Motor gasoline | 231.835 |

# CC12. Emissions Performance

## Emissions History

*CC12.1 How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?*

This is our first year of estimation

## Emissions Intensity

*CC12.2 Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes $CO_2e$ per unit currency total revenue*

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 0.00001 | metric tonnes | unit total revenue | | N/A | This is our first year of |

# Emissions Data

| | | | | | |
|---|---|---|---|---|---|
| | $CO_2e$ | | | | estimation, hence the direction of change from the previous year is unknown. |

## *CC12.3 Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes $CO_2e$ per full time equivalent (FTE) employee*

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 7.66 | metric tonnes $CO_2e$ | FTE employee | | N/A | This is our first year of estimation, hence the direction of change from the previous year is unknown. |

## *CC12.4 Please provide an additional intensity (normalized) metric that is appropriate to your business operations*

| Intensity figure | Metric numerator | Metric denominator | % change from previous year | Direction of change from previous year | Reason for change |
|---|---|---|---|---|---|
| 0.24 | metric tonnes $CO_2e$ | square meter | - | N/A | This is our first year of estimation, hence the direction of |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | change from the previous year is unknown. |

# CC13. Emissions Trading

## *CC13.1 Do you participate in any emissions trading schemes?*

*No, and we do not currently anticipate doing so in the next 2 years*

## *CC13.2 Has your organization originated any project-based carbon credits or purchased any within the reporting period?* ***(CDP 2013 Q 13.2, amended)***

*No*

# CC14. Scope 3 Emissions

## *CC14.1 Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions*

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| Purchased goods and services | Relevant, calculated | 1539.73 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | | Purchased metal raw materials are included in the estimations together with the chosen five suppliers' (strategic partners) energy consumption namely electricity, natural gas, Generator (diesel), liquefied petroleum gas, coal and woodchips. |
| Capital goods | Not relevant, explanation provided | | | | There hasn't been a major capital purchase in the reporting year. Therefore, this emission |

# Emissions Data

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| | | | | | source will be included in the following year's inventory if a major purchasing occurs. |
| Fuel-and-energy-related activities (not included in Scope 1 or 2) | Relevant, calculated | 11,196.26 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Scope 3 emissions arising from fuel and energy consumption are included in the estimations |
| Upstream transportation and distribution | Relevant, calculated | 82.91 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Transportation of purchased goods |
| Waste generated in operations | Relevant, calculated | 223.502 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Waste generated under different categories such as household waste, recyclable waste, |

# Emissions Data

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| | | | | | wastewater, electronical waste and hazardous waste are included in the estimations |
| Business travel | Relevant, calculated | 9,772.59 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Business travels by vehicle, bus and plane are included in the estimations |
| Employee commuting | Relevant, calculated | 832.68 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Employee shuttles and private car commuting are included in this category |
| Upstream leased assets | Not relevant, explanation provided | | | | Only the fuel consumption related emissions from the leased vehicles are reported under the business travel related emissions. |
| Investments | Not relevant, | | | | No investment |

# Emissions Data

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| | explanation provided | | | | related emissions occurred within the reporting period. |
| Downstream transportation and distribution | Relevant, calculated | 2,155.6 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | All delivery and shipment related emissions are included in this category |
| Processing of sold products | Not relevant, explanation provided | | | | All of our sold products are final products, so processing of our sold products are not relevant. |
| Use of sold products | Relevant, not yet calculated | | | | Due to the lack of data on usage phase of sold products, this emission source was excluded from the boundary. |
| End of life treatment of sold products | Relevant, not yet calculated | | | | Due to the lack of data on end of life treatment of |

# Emissions Data

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| | | | | | sold products, this emission source was excluded from the boundary. |
| Downstream leased assets | Not relevant, explanation provided | | | | There aren't any leased downstream assets in ASELSAN. Therefore, this emission source has been excluded from the boundary. |
| Franchises | Not relevant, explanation provided | | | | ASELSAN has no franchises. Therefore, this emission source is not relevant. |
| Other (upstream) | Relevant, calculated | 12,230.88 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Includes, food and beverage consumption, office supplies, hotel stays, refrigerant and fire extinguishers use related Scope 3 emissions |

# Emissions Data

| Sources of Scope 3 emissions | Evaluation status | metric tonnes $CO_2e$ | Emissions calculation methodology | Percentage of emissions calculated using primary data | Explanation |
|---|---|---|---|---|---|
| Other (downstream) | Relevant, calculated | 29.75 | The GHG Protocol-Corporate Value Chain (Scope 3) Accounting and Reporting Standard | 100% | Includes all mail deliveries related Scope 3 emissions |

## *CC14.2 Please indicate the verification/assurance status that applies to your reported Scope 3 emissions*

No third party verification or assurance

## *CC14.3 Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?*

*No, this is our first year of estimation*

## *CC14.4 Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)*

☒Yes, our suppliers

☐Yes, our customers

☐Yes, other partners in the value chain

☐No, we do not engage

*If "Yes, our suppliers", "Yes, our customers" or "Yes, other partners in the value chain" is ticked:*

# Emissions Data

## CC14.4a Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

ASELSAN has a broad international and local supply network and has reached a substantial number of suppliers since her inspection in 1975. ASELSAN works with different type of suppliers such as sellers, manufacturers, subcontractors, service providers, building contractors, distributors. Subcontractors, who design and produce according to ASELSAN requirements, play a special role among our suppliers due to the fact that their performance directly affects the success of ASELSAN. Therefore, ASELSAN evaluates and selects subcontractors by well defined auditing activities and monitors the performance of each approved subcontractor by each delivery. During the auditing process, supplier's capability of environmental management is also evaluated. By the beginning of 2015, the issues of GHG emission measurement and climate change strategies will be added into environmental management questionnaire and subcontractors will be given a score according to their replies.

For our 2013 inventory we have requested data from our main subcontractors. They have submitted their electricity and fossil fuel consumption values that are relevant to their production for ASELSAN. As a result we have seen that majority of our Scope 3 GHG emissions come from our suppliers' energy consumption.

*And if "Yes, our suppliers" is ticked, complete questions CC14.4b and CC14.4c*

## CC14.4b To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

| Number of suppliers | % of total spend | Comment |
|---|---|---|
| 160 | 15 | These data represent approved subcontractors in 2013. |

## CC14.4c If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

| How you make use of the data | Please give details |
|---|---|
| Other | We are using the energy consumption values of |

# Emissions Data

| | |
|---|---|
| | our main suppliers to calculate our scope 3 GHG emissions. In the future we are planning to include the GHG emission data of our suppliers in supplier scorecards. |

# Sign Off

*CC15.1 Please provide the following information for the person that has signed off (approved) your CDP climate change response* ***(CDP 2013 Sign-off Module, amended)***

| Name | Job title | Corresponding job category |
|---|---|---|
| Baki ŞENSOY | Strategy Management Directorate / Director | Other, please specify<br>Director |