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MINISTRY OF ENVIRONMENT,  
URBANIZATION AND CLIMATE CHANGE

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REPUBLIC OF TURKEY  
MINISTRY OF TRANSPORT  
AND INFRASTRUCTURE



DIRECTORATE GENERAL OF  
CIVIL AVIATION  
TURKEY

This guideline is prepared under the framework of the Project in coordination with the Directorate General of Civil Aviation - Republic of Turkey Ministry of Transport and Infrastructure.

# GUIDELINE FOR MONITORING, REPORTING AND VERIFICATION OF GREENHOUSE GAS EMISSIONS FROM AVIATION ACTIVITIES IN TURKEY

CAPACITY DEVELOPMENT FOR THE IMPLEMENTATION  
OF A MONITORING, REPORTING AND VERIFICATION (MRV)  
SYSTEM FOR GREENHOUSE GAS EMISSIONS

# H

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**Table icon:**

For tables related to explanations.



**Important note icon:**

For drawing attention to important notes.



**Chapter summary icon:**

For introducing the summary of the chapter to the subject.

# 1 About the Project

This project is based on an agreement between the Republic of Turkey and the Federal Republic of Germany. It is managed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) within the scope of a Cooperation Agreement. The cooperation partner and beneficiary of the project is the Ministry of Environment and Urbanization (MoEU). Funding is provided by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) via the International Climate Initiative (ICI).

In partnership with the MoEU, strong regulative legislation has been designed in accordance with the EU regulation, and an MRV system for GHG emissions from the energy and industrial sectors has been established. The core of the studies is the web-based data management system (DMS) enabling the installation operators to submit their monitoring plans and verified annual emission reports directly. Since the start of the project in October 2013, training and seminars have been conducted each year for operators to submit monitoring plans and annual emissions reports. Around 1,000 participants have so far acquired the necessary skills to complete such plans and reports. In addition, several guidance documents and manuals have been produced to provide the operators of industrial installations with guidance in monitoring plans, annual emissions reporting, sectoral calculations, and verification processes. More than 700 installations have submitted monitoring plans and verified annual emissions reports since 2015. However, while developing the MRV Legislation in Turkey, the aviation sector was excluded. Thus, the existing MRV system does not include aviation emissions.

Following the establishment of the MRV system for fixed installations, the project was extended with some additional priorities in September 2018, such as establishing technical and institutional prerequisites for integrating the aviation sector into the MRV system and developing the capacities of the relevant actors, improving data and process quality in the Turkish MRV system towards the EU-ETS standard and taking preparatory steps towards an emission trading or carbon pricing system by developing benchmark options for several relevant sectors.

As per the new component, one focus area is now to establish the MRV system for the aviation sector. Turkish Directorate General of Civil Aviation (DGCA) under the Ministry of Transport and Infrastructure declared its intention to participate and implement the CORSIA provisions in the Bratislava Declaration, dated September 3, 2016. Under this new component, it is intended to establish an MRV system covering emissions from both domestic flights and international flights with the Data Management System (DMS) as its centerpiece. In this context, the DGCA started to develop activities in cooperation with the project. With the cooperation of the DGCA and the DGEM, a four-step approach was followed to establish an MRV system for aviation activities. First, the necessary technical infrastructure for the DMS was studied. The required templates, such as combined monitoring plan, emission report, verification report, offset calculations, emissions unit cancellation reports, were developed to be integrated into the DMS along with a detailed flow chart of the DMS. As the second step, the software of the DMS was designed. Third, a pilot aviation MRV study was conducted with the participation of three volunteered Aeroplane operators and verification bodies. With this study, the DMS was tested with actual emission data, and at the end of the study, it was revised according to the

collected feedback from the aeroplane operators and the verification bodies. The fourth and last step of the component was to develop the capacity of the stakeholders from the sector. This guideline you are reading was written within this scope.

## 2 Monitoring of Greenhouse Gases in the Aviation Sector

Monitoring, Reporting and Verification schemes represent a critical greenhouse gas emission management tool in establishing a roadmap for the decarbonization policies of countries. Governments need elaborately designed MRV schemes to conduct, on a scientific basis, market-based and result-oriented decarbonization actions, which they will apply particularly in the carbon-intensive industries.

The first step towards monitoring, reporting and verification of greenhouse gas emissions in Turkey was taken by the publication of the “Regulation on Monitoring of Greenhouse Gas Emissions” in the Official Gazette No.29003 and dated 17 May 2014. Following that development, the Capacity Development Project for the Monitoring, Reporting and Verification of Greenhouse Gas Emissions, which target implementation of the MRV of greenhouse emissions from industrial installations that fall under the Categories of Activity listed in the Annex-1 of the Regulation, has been put into effect by GIZ and the Turkish Ministry of Environment and Urbanization. One of the most significant outputs of the project, the Data Management System, has been designed to execute MRV compliance transactions for the emissions caused by installations operating in the branches of industry that are subject to regulation. However, the emissions from industrial installations and the emissions from aviation activities are regulated under two different regulations.<sup>1</sup> The Turkey's Aviation Sector is excluded from the branches of industry that are subject to regulation within the scope of this legislation.

The first disputes towards regulating the greenhouse gas emissions caused by the aviation sector via a carbon pricing mechanism started in 2009 with the facilitation of the ICAO. These disputes matured when ICAO introduced, in 2016, the carbon offsetting mechanism titled CORSIA, which envisages handling and reduction of CO<sub>2</sub> emissions from international civil aviation operations. The standards for implementing CORSIA, the first international decarbonization tool designed for a global branch of the industry within the framework of the fight against the climate crisis, were accepted on 1 January 2019, as an annex of the Chicago Convention, to apply for all 193 member states of the ICAO. Periods like baseline period, pilot phase and the first phase, and second phase have been identified within the scope of CORSIA. A detailed timeline on CORSIA is presented in Figure 1.

As of 2021, CORSIA aims at stabilizing the emissions from international civil aviation activities at the levels for 2019.

As discussed in Section 1 of the Guideline, the Republic of Turkey - a

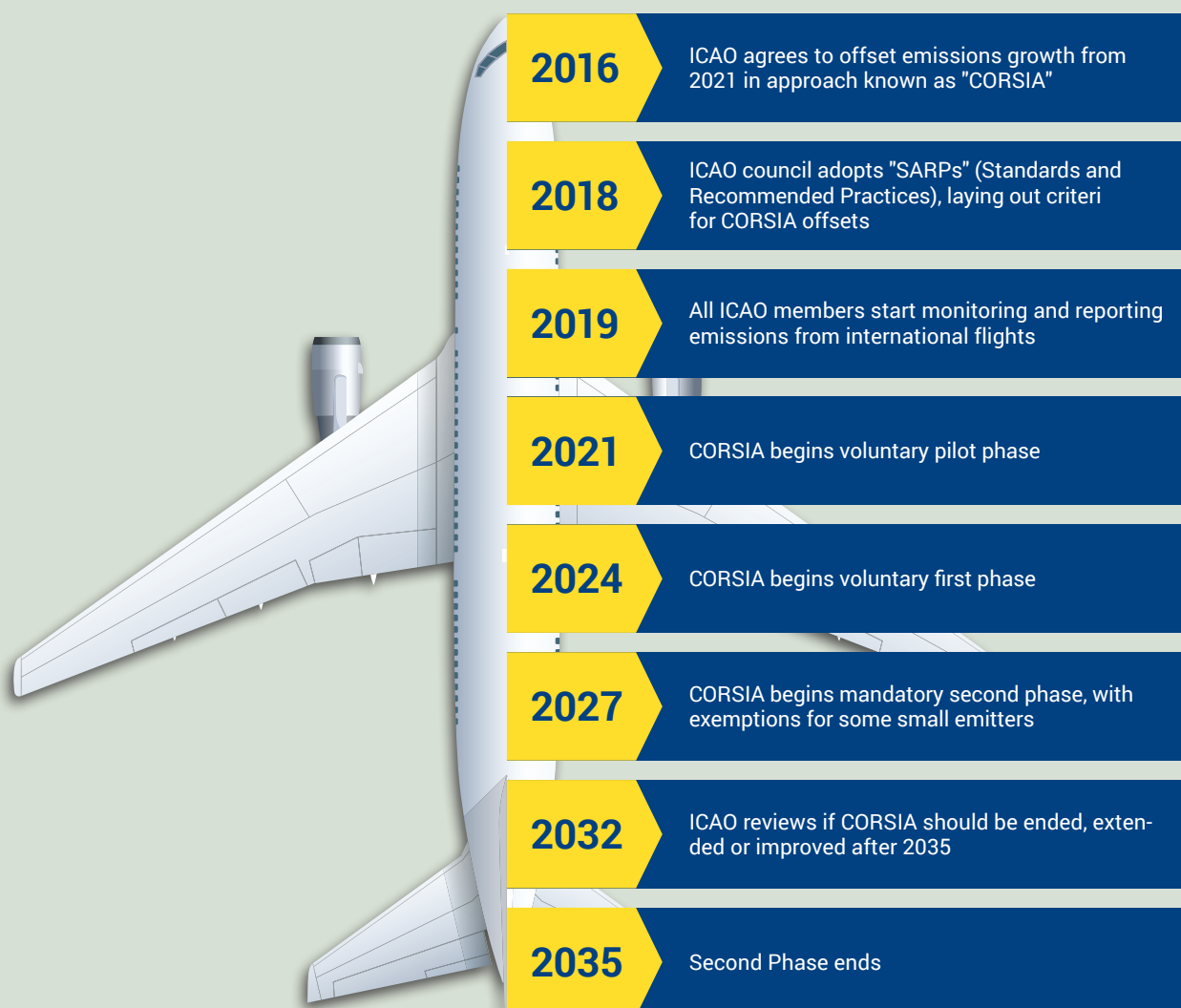
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<sup>1</sup> Greenhouse gas emissions from industrial activities are regulated under the “Regulation on Monitoring of Greenhouse Gas Emissions”, whereas greenhouse gas emissions from aviation activities are regulated under the Carbon Offsetting and Reduction Scheme for International Aviation Implementation Order (SHT-CORSIA).

member state of the ICAO - is obliged to regulate, following CORSIA, its emissions resulting from the international flights of aeroplane operators performing international civil aviation operations. In this context, a similar need in other carbon pricing applications effective in different regions around the world will also apply for CORSIA. A market-based decarbonization mechanism to be carried out for emissions from the aviation sector brings along the need for a MRV scheme that will offer a robust inventory for the emissions from that sector. The Directorate General of Civil Aviation under the Ministry of Transport and Infrastructure published an Implementation Order for Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA-SHT) on 8 January 2020. An MRV Data Management System has been designed as part of the Capacity Development Project in Turkey for the Monitoring, Reporting and Verification (MRV) of Greenhouse Gas Emissions, conducted by the DGCA and GIZ, both to enable the implementation of the Order and to fulfill the need for the emission inventory resulting from the aviation operations in Turkey.



Figure 1: CORSIA Timeline<sup>2</sup>



<sup>2</sup> <https://www.carbonbrief.org/corsia-un-plan-to-offset-growth-in-aviation-emissions-after-2020>

### 3 About the Guideline

This Guideline has been designed to facilitate the use of the Data Management System designed for online performance of the actions under the MRV scheme for the Turkey's Aviation Sector for:

- Aeroplane Operators
- Verification Bodies

The main purpose of the Guideline can be summarized as follows:

- To provide information about design elements and modular business flows
- To provide information about the MRV compliance transactions that can be performed via Data Management System Modules
- To provide information about the technical details that could be useful while using the Data Management System and to previously inform the users about the difficulties, remedies and solutions they could encounter while using the DMS

Additionally, the content of the Guideline has been supported on the procedures and principles regarding compliance with the Turkey's Aviation Sector and CORSIA, which are determined following the SHT-CORSIA Order published by the DGCA. On the other hand, the DMS users are recommended to follow publications other than this Guideline, so that they can complete the MRV and CORSIA compliance procedures precisely.

### 4 MRV Scheme for the Turkey's Aviation Sector

The Regulation addresses the MRV requirements for the emissions from the civil aviation sector, based on flight type, considering the inventory needs of international flights and domestic flights. These needs dictate that the greenhouse gas inventory setup for domestic flights has been designed as based on CORSIA, only for Monitoring, Reporting and Verification; whereas the inventory setup for international flights has been designed to cover the carbon offsetting requirements, in addition to Monitoring, Reporting and Verification, to fulfill all the obligations of CORSIA. In other words, no offsetting requirement applies for domestic flights, following the scope of CORSIA. Table 1 summarizes the differences and similarities in addressing the domestic flights and international flights under the MRV Scheme for the Turkey's Aviation Sector.



**Table 1:** MRV Scheme for the Turkey's Aviation Sector: Addressing Domestic Flights and International Flights

Flight Type	International Flights	Domestic Flights
MRV requirement	Yes	Yes
Offsetting requirement obligation	Yes	No
Monitoring Periods		
1 <sup>st</sup> Monitoring Period	01/01/2019 – 31/12/2020	
2 <sup>nd</sup> Monitoring Period	01/01/2021 – 31/12/2023	
3 <sup>rd</sup> Monitoring Period	01/01/2024 – 31/12/2026	
4 <sup>th</sup> Monitoring Period	01/01/2027 – 31/12/2029	
5 <sup>th</sup> Monitoring Period	01/01/2030 – 31/12/2035	
First reporting year	The first emissions reporting under the MRV for the Turkey's Aviation Sector will be prepared for the CO <sub>2</sub> emissions resulting from the aviation activities performed in 2019. <sup>3</sup>	The first emissions reporting under the MRV for the Turkey's Aviation Sector will be prepared for the CO <sub>2</sub> emissions resulting from the aviation activities performed in 2021. Reporting of the emissions that occurred in 2021 is not mandatory, the Aeroplane Operators who want to be included in the reporting must submit their emissions reports to the DGCA by 30 June 2022. <sup>4</sup>
Submission date for the first verification report	31 May 2020 (for the reports on CO <sub>2</sub> emissions that occurred in 2019)	30 April 2023 (for the reports on CO <sub>2</sub> emissions that occurred in 2022)
First transactions for the offsetting requirement	Aeroplane Operates are obliged to retire, by no later than 31 May 2025, the carbon credits they mobilized to offset the emissions that occurred between 2021 and 2023. <sup>5</sup>	Aeroplane Operates registered at the Turkey's Aviation Sector have no obligation of offsetting the CO <sub>2</sub> emissions from domestic flights.



As per the regulation, the acts and actions to be performed within the framework of monitoring the aviation sector emissions will be performed over the electronic system under the Data Management System. Accordingly, aeroplane operators must monitor, report and verify the CO<sub>2</sub> emissions that will be generated by the domestic and international flights by using the Data Management System. Besides, the Emissions Unit Cancellation Reports of flights subject to the offsetting obligations will, again, be prepared over the system, subject to the verification transactions and submitted to the DGCA.

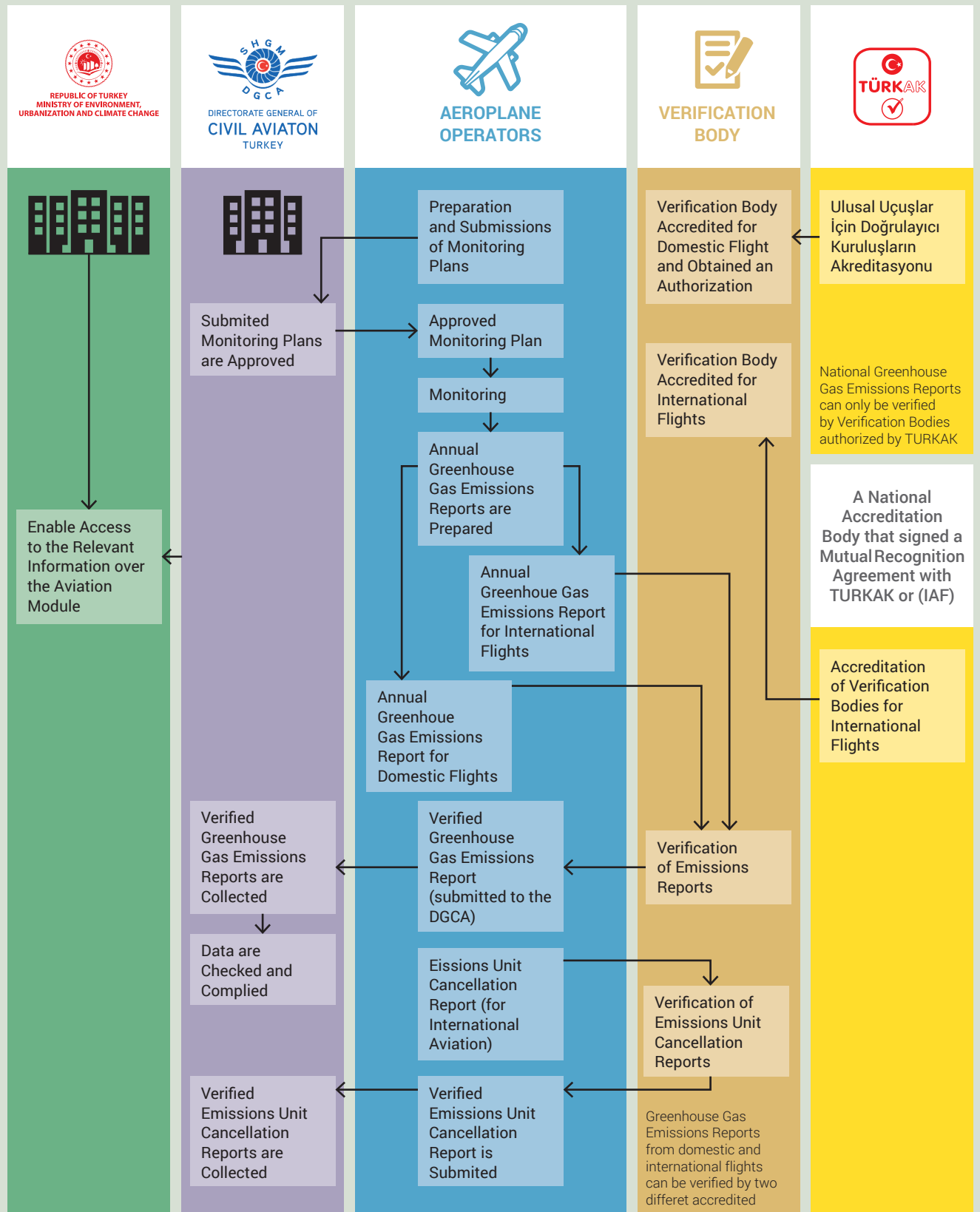
<sup>3</sup> Emissions that occurred in 2019 are reported via DMS channel in 2020.

<sup>4</sup> Emissions that occurred in 2022 are reported via DMS channel in 2023.

<sup>5</sup> An aeroplane operator can also perform its retirement transactions on an annual basis, with reference to the verification of the relevant emissions report. In this context, the reports to be prepared for the carbon credit retirements applied to offset the emissions between 2021 and 2023 must be verified between 1 December 2024 and 30 April 2025.



Figure 2: General Functioning Scheme for the Greenhouse Gas Emissions from Aviation Activities





As seen in Figure 1, all monitoring, reporting, verification and emissions unit cancellation steps are conducted over the Data Management System. The MoEU, DGCA, TURKAK, aeroplane operators and verification bodies are involved in the process of monitoring greenhouse gas emissions.

By referring to the baseline scenario in 2020, carbon-neutral growth is targeted in the international civil aviation sector through technological and operational improvements, sustainable alternative fuels and market-based approaches. In parallel with that target, there is an offsetting requirement for international flights. Through the offset mechanism, airplane operators will offset the volume of CO<sub>2</sub> they cause during a year to the base year (baseline) level, thus contributing to the growth and sustainable development of the aviation industry from 2020 without increasing carbon.

**International Flight:** means the operation of an aeroplane from take-off at any aerodrome of a State party to the Chicago Convention or its territories, to landing at any aerodrome of another State party to the Chicago Convention or its territories.

**Domestic Flight:** means the operation of an aeroplane from take-off at any aerodrome in Turkey or its territories, to landing at any aerodrome of Turkey or its territories.

The CO<sub>2</sub> emissions from aeroplanes with a certified maximum take-off weight of 5,700 kg, rented or owned by Aeroplane Operators under the monitoring, reporting and verification scheme for the Turkey's Aviation Sector, will be the focal point of the regulation. The reporting obligations - under MRV - of domestic flights and international flights conducted by Aeroplane Operators by using these aeroplanes have been determined by different thresholds. The MRV Scheme for the Turkey's Aviation Sector prescribes reporting of emissions of 5,000 tCO<sub>2</sub> and higher from domestic flights of an aeroplane operator; and emissions of 10,000 tCO<sub>2</sub> and higher from international flights; and exemption of emissions of Aeroplane Operators that are lower than this annual threshold values. In this sense, the objectives of the MRV for Turkish Aviation are:

1. To coordinate the exemptions based on compliance period, for flights that remain under the threshold values for emission volumes;
2. To create an inventory for CO<sub>2</sub> emissions resulting from the domestic flights and international flights of Aeroplane Operators registered in Turkey's Aviation Sector;
3. To enable the reporting required for the Aeroplane Operators registered in Turkey's Aviation Sector to perform the CORSIA compliance transactions.

In line with the foregoing objectives, the documents required to be prepared for compliance with the MRV, as stated in the Order, are listed as follows:

- **MRV Exemption Certificate:** The Aeroplane Operators estimating that the emissions they will cause during a compliance period will be below the threshold values determined according to the flight types will apply for exemption from the MRV via the Compliance Periods Module. Once such application is approved by the DGCA, an MRV Exemption Certificate issued as bearing the signature of DGCA for the relevant compliance period will be made available for access by the relevant user, over the DMS.

- **Monitoring Plan:** It is the document where Aeroplane Operators declare their monitoring methods to be followed in the Emissions Report they will prepare within the scope of MRV compliance. A Monitoring Plan is prepared for each compliance period and its validity is subject to the approval of the DGCA.
- **Emissions Report:** It is the report by which Aeroplane Operators document, on an annual basis, the emission inventory they prepare for their flights (see: domestic flights and international flights) that are not exempt from the MRV. Validity of the Emissions Report is subject to the approval of the Verification Body and the DGCA.
- **Emissions Unit Cancellation Report:** It is the report where Aeroplane Operators clarify the details (i.e., credit volume, credit details etc.) of the carbon offsetting transactions they perform within the scope of their CORSIA compliance obligations.
- **Verification Report:** These are the reports in which Verification Bodies check whether the information provided in the ER and EBIR documents are compatible with the Monitoring Report previously prepared by the relevant aeroplane operator and approved by the DGCA, and the validity of data, and present their opinions. Validity of the Verification Report is subject to the approval of the DGCA.

Aeroplane Operators must prepare the relevant documentation by using the online software of the Data Management System to fulfill their MRV obligations in line with the above-listed objectives.

## 5 Design of the Data Management System

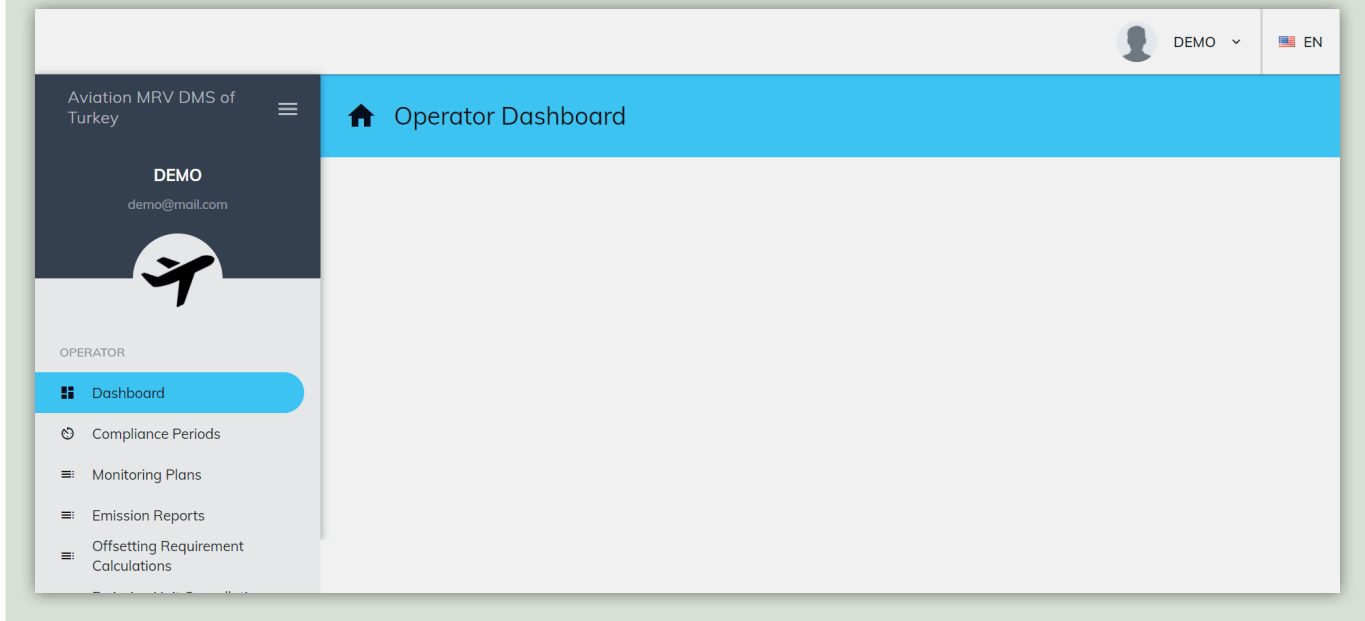
### 5.1 User Profile

User profile of the Data Management System, by means of which the MRV compliance transactions of the Turkey's Aviation Sector, consist of the followings:

- **Admin Account:** The user account is open for access by the DGCA, the competent authority responsible for the execution of the MRV scheme developed for the Turkey's Aviation Sector. The DGCA checks, confirms and rejects the data and reporting entered by the relevant flights for compliance with the MRV.
- **Admin Account (Read-Only):** This Admin account allocated to the Ministry of Environment and Urbanization has been designed to enable the Ministry to instantly view and monitor the actions carried out under the MRV scheme developed for the Turkey's Aviation Sector. Only viewing and monitoring actions can be carried out on this account.
- **Aeroplane Operator Account:** The user account through which Aeroplane Operators perform the exemption or reporting actions for compliance with the MRV.
- **Verification Body Account:** The user account through which the MRV documents subject to verification following the content of the Order are made available for access by the Verification Bodies.



Figure 3: Login Screen – Dashboard (Aeroplane Operator) and DMS Modules



## 5.2 Design of the DMS Modules

Following the contents of the Annex of the Chicago Convention referring to CORSIA and the Order published by the DGCA, the aviation companies to be subject to MRV regulation are obliged to provide information or report by using the Data Management System for emissions from the flights they are exempt from and the flights they are responsible for. In this context, the Aeroplane Operators must share the needful over the DGCA and DMS system, the information required for the flights (see: domestic flights and international flights) which they believe to be exempt from the MRV during the relevant CORSIA compliance period, and have their MRV exemptions approved; must complete the data entries on the relevant DMS modules to make the necessary reporting for the flights they are not exempt from and have the entered data approved by the Verification Bodies and the DGCA.

Users of the Data Management System can perform actions on the following points:

- Applications for MRV Exemption by Aeroplane Operators (for domestic flights and international flights)
- Preparation of monitoring plan, emissions report, offsetting requirement report and emission unit cancellation report documents by Aeroplane Operators
- Preparation of the verification reports for emissions reports and emissions unit cancellation reports by the Verification Bodies
- Uploading of supporting documents for the prepared documents (in zip format)
- Presenting opinions regarding the data entered and the documents prepared by the DGCA
- Preparation of CCR that include the total international emissions of Turkey to be conveyed by the DGCA to the ICAO

DMS consists of 5 basic modules; “Compliance Periods Module, Monitoring Plans Module, Emissions Reports Module, Offsetting Requirement Calculations Module, Emissions Unit Cancellation Module and Verification



Module". Upon logging in to the DMS with user information, Aeroplane Operators carry out the MRV compliance transactions by using 5 of these modules listed on the dashboard (Figure 3). The Verification Module is made available for access by the Verification Body, after the relevant Verification Body is assigned by the Aeroplane Operator.

### 5.3. DMS Organization Charts

The Data Management System has different organization charts for Domestic Flights and International Flights. The main difference between these organization charts is that no offsetting requirement has been assigned, under CORSIA and, therefore, the Regulation, to the emissions from Domestic Flights. In other words, functions of offsetting requirement calculation and offsetting reporting for Domestic Flights in MRV compliance procedures carried out under the DMS are not available.

Organization charts of the DMS, which are designed by Domestic Flights and International Flights, are demonstrated in Figure 4 and Figure 5.



**Figure 4:** Organization Chart – Emissions from Domestic Flights

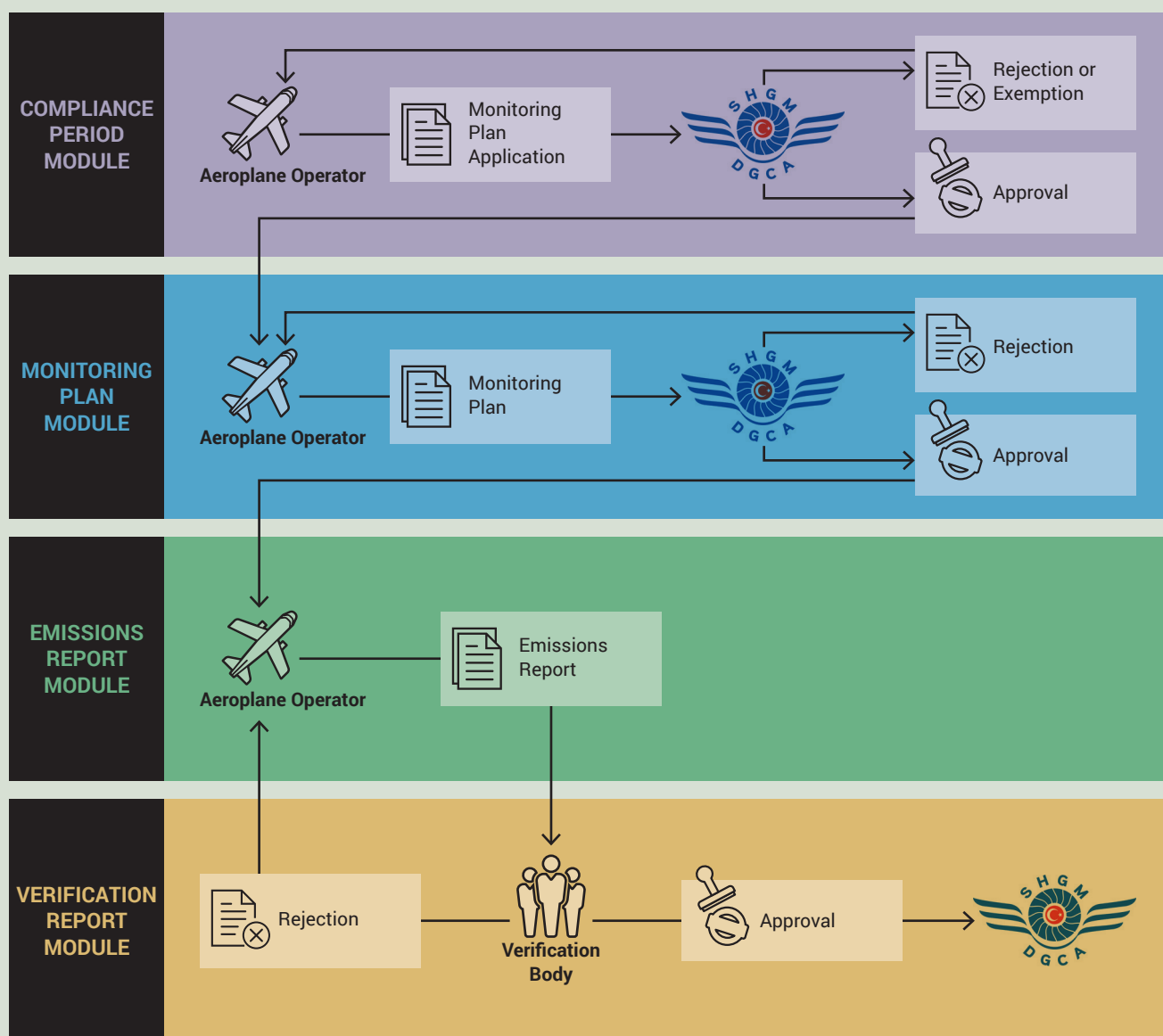
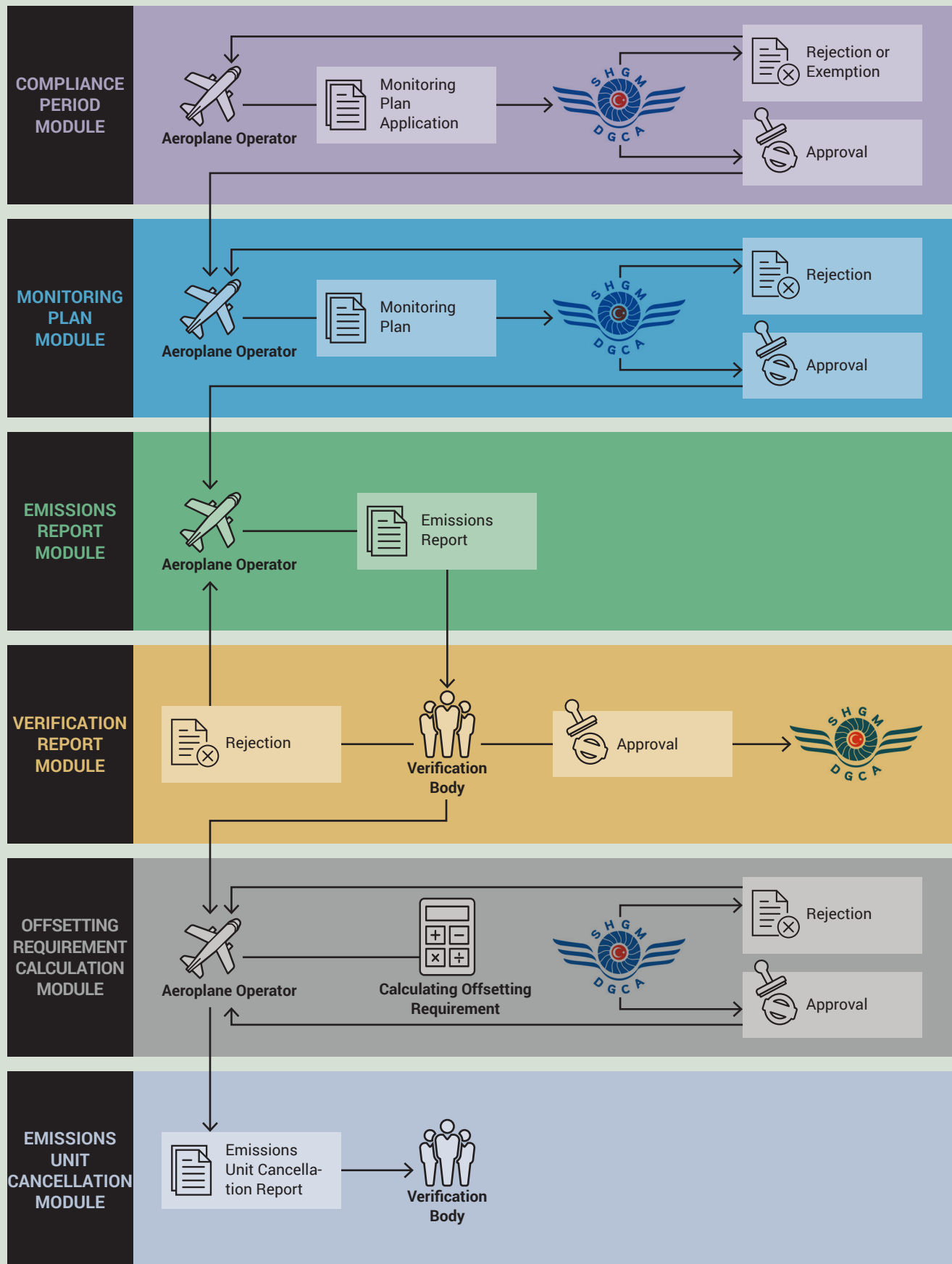


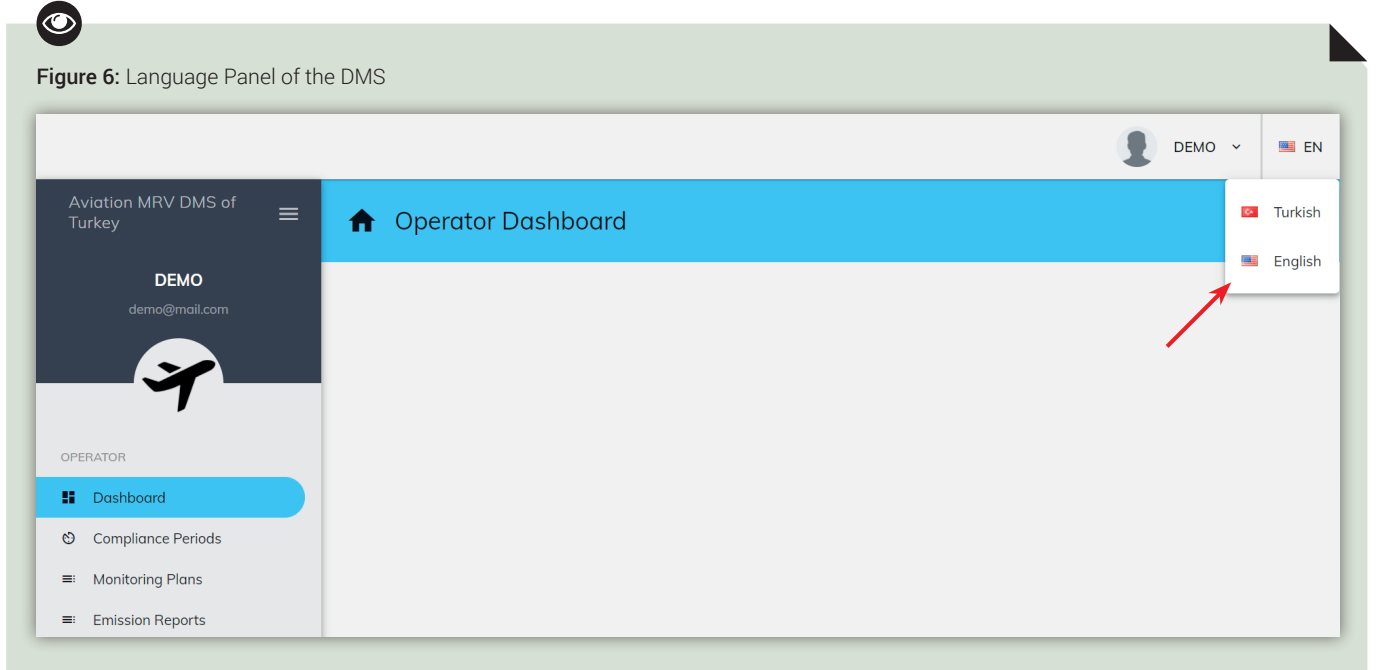


Figure 5: Organization Chart – Emissions from International Flights



#### 5.4 Bilingual Structure of the DMS

The Data Management System enables data entry and reporting in two different languages, English and Turkish, for Aeroplane Operators. Users can instantly change the reporting and data entry language by clicking on the country flag signs on the top right corner of the DMS (Figure 6).



The DMS has been designed to allow Monitoring Plans to be prepared in both Turkish and English in the same report. On the other hand, there are some points to be considered while selecting the preparation language of the Emissions Reports. Aeroplane Operators can only work with local Verification Bodies in verifying the reporting of emissions from domestic flights, as dictated by the Order. In this context, the DMS has been developed to allow preparation of the emissions reports for such flights in Turkish only. All other reporting for the emissions resulting from international flights can be completed in either English or Turkish.

## 6 Business Flows in the DMS Modules

The Order provides for different requirements for reporting and data entries as part of the MRV exemption actions and the MRV compliance transactions for the emissions from domestic flights and international flights. In this sense, the business flows that form the background of the MRV compliance transactions to be performed under the DMS vary for domestic flights and international flights.

### 6.1 Compliance Periods Module



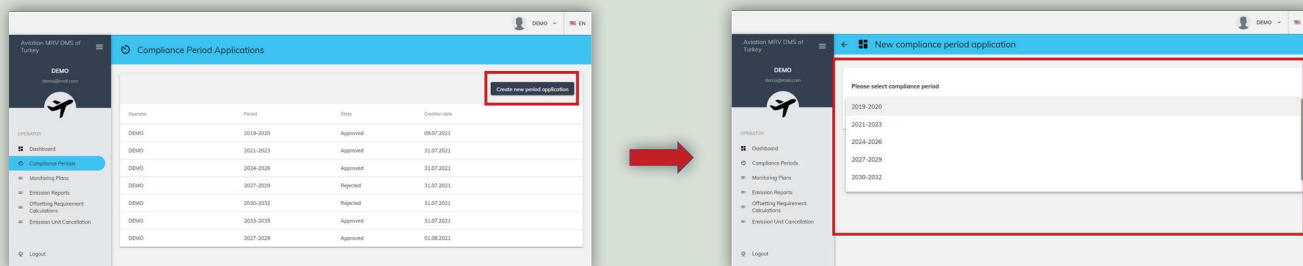
Aeroplane Operators can perform the following actions over the Compliance Periods Module:

- Applying for MRV exemption
- Selecting a Monitoring Plan
- Checking the current states of applications submitted for the opinion of the DGCA

The first step shall be taken by Aeroplane Operators in the MRV compliance transactions is to select the relevant Compliance Period for data entry or reporting. Users should start the MRV compliance transactions by selecting one of the compliance periods from the tab that will open by clicking on the “Create a New Compliance Period” button, as seen in Figure 7, determined in parallel with the CORSIA compliance periods in the Order..



Figure 7: Creating a New Compliance Period Application



#### 6.1.1 Domestic Flights Actions



The hierarchy for the MRV compliance transactions (data entries) to be performed in the Compliance Periods Module has been designed to allow data entry for Domestic Flights first and International Flights after.

After selecting the Compliance Period, Aeroplane Operators are directed to the MRV Exemption query for the Domestic Flights of the relevant period. There are two scenarios that make the Aeroplane Operators exempt from the MRV:

1. Not exceeding the emission threshold: Aeroplane Operators that calculate, with a CERT tool, the estimated emissions caused by domestic

flights during a compliance period to be below 5,000 tCO<sub>2</sub> will be exempt from the MRV for that compliance period.

## 2. Not operating any domestic flights

The Aeroplane Operators that answer the question of “Are your annual CO<sub>2</sub> emissions resulting from the domestic flights greater than or equal to 5,000 tonnes?” - shown in Figure 8 - as “No” should select a reason of exemption. Any user who selects an option saying the user did not exceed the threshold must upload the CERT document used for calculations and other potential supporting documents to that calculation. On the other hand, any user who selects an option saying the user did not perform any domestic flights must upload a signed declaration to the system, indicating that the user did not perform Domestic Flights.



Figure 8: Selecting the Reason behind MRV Exemption

Aviation MRV DMS of Turkey

DEMO EN

OPERATOR

Dashboard

Compliance Periods

Monitoring Plans

Emission Reports

Offsetting Requirement Calculations

Emission Unit Cancellation

Logout

New compliance period application

Please select compliance period

2019-2020

Domestic Flights

From the use of an aeroplane(s) with a maximum certificated takeoff mass greater than 5700 kg:  
Are your annual CO<sub>2</sub> emissions resulting from the domestic flights greater than or equal to 5,000 tonnes?  
☐ Yes ☒ No

If you are an aeroplane operator with annual CO<sub>2</sub> emissions resulting from the domestic flights are less than 5,000 tonnes from the use of an aeroplane(s) with a maximum certificated takeoff mass greater than 5700 kg, then you shall apply for an exemption with supporting documents containing the necessary evidence.

Please choose the reason behind your application for MRV exemption

☐ Azami Sertifikalı Kalkış Ağırlığı 5.700 kg'dan fazla olan uçak(lar)ın kullanımından dolayı İç Hat Uçuşlarından kaynaklı yıllık CO<sub>2</sub> emisyonu, 5.000 tCO<sub>2</sub>/yıl'ın altında olan bir Uçak İşleticisiyim

☐ İç Hat Uçuşu gerçekleştirilmeyen bir Uçak İşleticisiyim

You must upload one file at least.

Filename

Select files

Additional Comment

Next



Users who will not demand MRV exemption under the Compliance Period application should answer the question of “Are your annual CO<sub>2</sub> emissions resulting from the domestic flights greater than or equal to 5,000 tonnes?” as “Yes”. Users who give that answer for Domestic Flights must apply for Domestic Flights by selecting one of the 5 Fuel Use Monitoring Method (Figure 9). In other words, Domestic Flights can only be reported by selecting one of the 5 Fuel Use Monitoring Method on the MRV Scheme for the Turkey’s Aviation Sector.



**Figure 9:** Selecting the monitoring method for Domestic Flights

### Domestic Flights

From the use of an aeroplane(s) with a maximum certificated takeoff mass greater than 5700 kg;  
Are your annual CO<sub>2</sub> emissions resulting from the domestic flights greater than or equal to 5,000 tonnes?

☒ Yes ☐ No

- ☐ Method A
- ☐ Method B
- ☐ Block On-Off
- ☐ Fuel Uplift
- ☒ Fuel Allocation

You shall use the same monitoring method for domestic and international flights.

### 6.1.2 International Flight Transactions

After selecting the Compliance Period, Aeroplane Operators are directed to the MRV Exemption query for the International Flights of the relevant period. There are two scenarios that make the Aeroplane Operators exempt from the MRV:

1. Not exceeding the emission threshold: Aeroplane Operators that calculate, with a CERT tool, the estimated emissions to be caused by international flights during a compliance period as below 10,000 tCO<sub>2</sub> will be exempt from the MRV for that compliance period.
2. Not operating any international flights

The Aeroplane Operators that answer the question of “Are your annual CO<sub>2</sub> emissions from International Flights equal to 10,000 tons or higher?” - shown in Figure 8 - as “No” should select a reason of exemption. Any user who selects an option saying the user did not exceed the threshold must upload the CERT document used for calculations and other potential supporting documents to that calculation. On the other hand, any user who selects an option saying the user did not perform any international flights must upload a signed declaration to the system, indicating that the user did not perform International Flights.

On the other hand, users who answer the question of “Are your CO<sub>2</sub> emissions resulting from the international flights greater than or equal to 10,000 tonnes?” as “Yes” are obliged to answer a number of new questions and



As provided for in the Order, the emissions from flights subject to offsetting requirement must be monitored by using one of the 5 Fuel Use Monitoring Method.



**Figure 10:** Selecting the monitoring method for International Flights

### International Flights

From the use of an aeroplane(s) with a maximum certificated takeoff mass greater than 5700 kg:  
Are your CO<sub>2</sub> emissions resulting from the international flights greater than or equal to 10,000 tonnes?

☐ Yes ☒ No

Please choose the reason behind your application for MRV exemption

- ☐ Azami Sertifikalı Kalkış Ağırlığı 5.700 kg'dan fazla olan uçakların kullanımından dolayı Dış Hat Uçuşlardan kaynaklı yıllık CO<sub>2</sub> emisyonu 10.000 tCO<sub>2</sub>'nin altında olan bir Uçak İşleticisiyim
- ☐ Dış Hat Uçuşu gerçekleştirilmeyen bir Uçak İşleticisiyim

You must upload one file at least.

Filename

Select files

make new selections in line with those answers. Accordingly, as shown in Figure 11, the first question to be answered by the user is, “Are your CO<sub>2</sub> emissions resulting from the international flights greater than or equal to 50,000 tonnes?”

Users who answer the question as “Yes” must select the same method they previously selected from the options for 5 Fuel Use Monitoring Method to monitor Domestic Flights, in case of flights subject to offsetting requirement, as provided for in the Order. In other words, the DMS automatically makes this selection for the users.<sup>7</sup>

Users who answer the question as “No” have two different options for monitoring the emissions from the relevant International Flights:

- 1. Fuel Use Monitoring Method:** Users must select the same method they previously selected from the options for 5 Fuel Use Monitoring Method to monitor Domestic Flights. Following that selection (automatic or manual), the user is obliged to answer the question of “Do you want to proceed use with the same MRV Fuel Use Monitoring Method path for the flights which is not operated in between two voluntary states or operated in between one voluntary one non-voluntary state that are not subject to offsetting requirements?” Users who answer this question

<sup>7</sup> Users who apply for exemption for Domestic Flights select at this stage, for the first time, one of the 5 Fuel Use Monitoring Methods to be used for monitoring the flights subject to offsetting requirement.

as “Yes” will report their emissions with 5 Fuel Use Monitoring Method, whereas those who answer the question as “No” will use the ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT).<sup>8</sup>

1. **ICAO CORSIA CERT (Simplified MRV):** Users must enter the estimated emission value and upload the CERT Excel file that contains the calculations indicating that value (Figure 11).



Figure 11: CORSIA offsetting requirement question

**International Flights**

From the use of an aeroplane(s) with a maximum certified takeoff mass greater than 5700 kg:  
Are your CO<sub>2</sub> emissions resulting from the international flights greater than or equal to 10,000 tonnes?  
☒ Yes ☐ No

Please check the Participating States included in ICAO document entitled "CORSIA States for Chapter 3 State Pairs" to identify flights subject to offsetting requirements in CORSIA from here: [External link](#)

Participating States\*: Voluntarily Participating States for 2021-2027 period

☒ Participating States checked  
Are your CO<sub>2</sub> emissions from international flights subject to offsetting requirements greater than or equal to 50,000 tonnes/year?  
☒ Yes ☐ No

☐ Method A  
☐ Method B  
☐ Block On-Off  
☐ Fuel Uplift  
☒ Fuel Allocation

Do you want to proceed with the same MRV Fuel Use Monitoring Methodpath for the flights which is not operated in between two voluntary states or operated in between one voluntary one non-voluntary statethat are not subject to offsetting requirements? (i.e. if you choose no, you shall use ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT) for monitoring and reporting the emissions from the flights that are not subject to offsetting requirements)  
☐ Yes ☐ No

Submit

**International Flights**

From the use of an aeroplane(s) with a maximum certified takeoff mass greater than 5700 kg:  
Are your CO<sub>2</sub> emissions resulting from the international flights greater than or equal to 10,000 tonnes?  
☒ Yes ☐ No

Please check the Participating States included in ICAO document entitled "CORSIA States for Chapter 3 State Pairs" to identify flights subject to offsetting requirements in CORSIA from here: [External link](#)

Participating States\*: Voluntarily Participating States for 2021-2027 period

☒ Participating States checked  
Are your CO<sub>2</sub> emissions from international flights subject to offsetting requirements greater than or equal to 50,000 tonnes/year?  
☐ Yes ☒ No

Please choose the MRV pathway you will follow for your international emissions  
☐ Fuel Use Monitoring Method(Full MRV) ☒ ICAO CORSIA CERT (Simplified MRV)

Enter emission value (tCO<sub>2</sub>)

Lütfen ICAO CORSIA CO<sub>2</sub> Tahmin ve Raporlama Aracı (CERT) tarafından hesaplanan tkm Dış Hava Uçuşları için tahmini CO<sub>2</sub> emisyon değeri ve tahminin nasıl hesaplandığını ayrı bölümleri içeren dosyayı lütfen yükleyiniz. SİGSA, Uçama ve Raporlama gereksinimlerini yerine getirmek için ICAO CORSIA CERT'i kullanma uygulamanızı değerlendirerek ve uygun bulursa onaylayacaktır. You must upload one file at least.

Filename

Additional Comment

Submit

<sup>8</sup> Users who apply for exemption for Domestic Flights select at this stage, for the first time, one of the 5 Fuel Use Monitoring Methods to be used for monitoring the flights subject to off-setting requirement.

### 6.1.3 Compliance Period Application Control

Aeroplane Operators that complete the MRV compliance transactions on the Compliance Period Module and make the Compliance Period Application to the DGCA can check the current status of their applications from the list of “Compliance Period Applications” (Figure 12) available on the home page of the Module.



Figure 12: List of Compliance Period Applications

Compliance Period Applications			
<a href="#">Create new period application</a>			
Operator	Period	State	Creation date
DEMO	2019-2020	Approved	09.07.2021
DEMO	2021-2023	Approved	31.07.2021
DEMO	2024-2026	Approved	31.07.2021
DEMO	2027-2029	Pending	31.07.2021
DEMO	2030-2032	Pending	31.07.2021
DEMO	2033-2035	Approved	31.07.2021

The applications created under the Compliance Periods Module can have 3 Statuses:

1. Approved
2. Rejected
3. Pending

If a created application is not subject to the approval of the DGCA, it directly appears as “Approved” on the list. On the other hand, applications subject to the approval of the DGCA will remain as “Pending” until the application is approved by the DGCA or rejected (see: “Status” column).

Aeroplane Operators will be directed to the Compliance Period Application Details screen when their listed applications are clicked on. Compliance Period Application Details screen (Figure 13) include the following basic information:

- Application Result
- Date of Application
- Reply date to the application (if replied)
- Comments of the DGCA (if commented)
- Monitoring Method subject to application (by flight type - Domestic and International)



Figure 13: 13. Compliance Period Application Detail screen

Aviation MRV DMS of Turkey

DEMO  
demo@mail.com

OPERATOR

- Dashboard
- Compliance Periods
- Monitoring Plans
- Emission Reports
- Offsetting Requirement Calculations
- Emission Unit Cancellation
- Logout

Compliance Period Application Detail

Compliance Period: 2019-2020

Compliance Period Application	Domestic: Full MRV	International: Full MRV
<p>Operator DEMO</p> <p>Application State Approved</p> <p>Application Date 09.07.2021</p> <p>Application Response Date -</p> <p>Comments of Competent Authority -</p>	<p>Selected Method</p> <ul style="list-style-type: none"><li>Method A</li></ul>	<p>Selected Method</p> <ul style="list-style-type: none"><li>Method A</li></ul>

## 6.2 Monitoring Plans Module



Aeroplane Operators can perform the following actions over the Monitoring Plans Module:

- Creating a Monitoring Plan
- Submitting the created Monitoring Plans to the opinion of the DGCA
- Organizing the Monitoring Plans submitted to the opinion of the DGCA

This module consists of the 6 main sections listed below:

1. Information On Monitoring Plan
2. Identification Of Aeroplane Operator and Description of Activities
3. Fleet and Operations Data
4. Methods and Means for Calculating Emissions
5. Data Management
6. Submission

Users can start preparing a Monitoring Plan for each Compliance Period, for which an application was created previously, by clicking on the “Add New” button on the home page of the Module (Figure 14).

Users can perform the following actions from the control panel on the top right of the Module screen (Figure 15):

- Instant recording of data entries (see: red arrow)
- Transition between sections (see: green arrow)
- Opening of the section panel (see: brown arrow)





Figure 14: Adding a New Monitoring Plan

### Monitoring Plans

Add New

Filter

ID	Operator	Compliance Period	Status	Version	Created at ↓	
BE62	DEMO	2021-2023	Rejected	-	31.07.2021	Clone

Items Per Page 5 Range < >



Figure 15: Monitoring Plans Module Dashboard

Aviation MRV DMS of Turkey

Monitoring Plan Compliance Period:2021-2023 DEMO

DEMO

EN

Sections

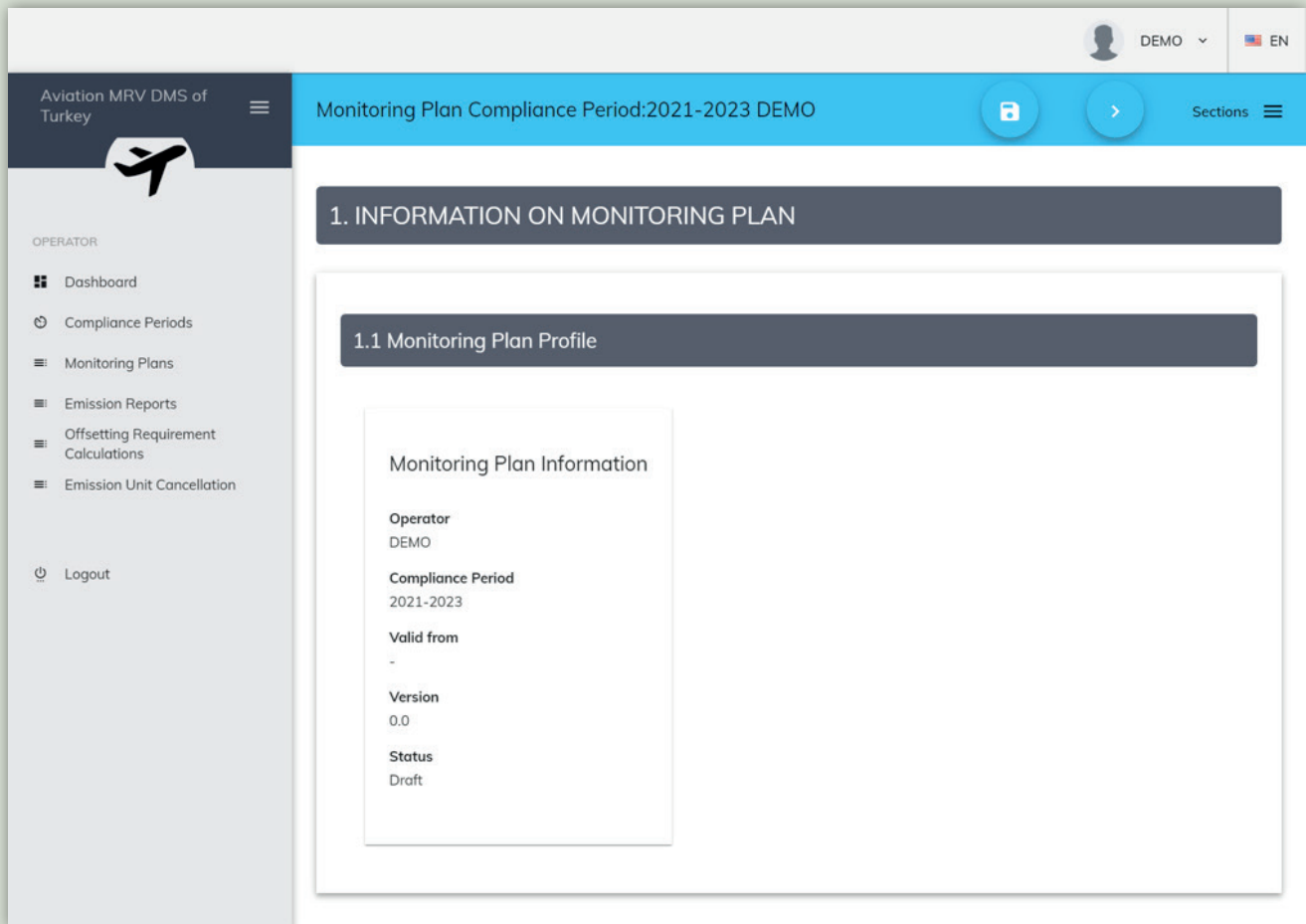
### 6.2.1 Information On Monitoring Plan

Users can access the following basic information over the Section on Information about the Monitoring Plan (Figure 16):

- Compliance Period for which a Monitoring Plan has been created
- Validity Date of the Monitoring Plan
- Version number of the Monitoring Plan
- Status of the Monitoring Plan



Figure 16: Section on the Monitoring Plan Information



The applications created under the Monitoring Plans Module can have 4 Statuses:

1. Draft
2. Approved
3. Rejected
4. Pending

An application in the process of creation appears as “Draft”. Applications submitted to the approval of the DGCA will remain as “Pending” until the application is approved by the DGCA or rejected.

### 6.2.2 Identification Of Aeroplane Operator and Description of Activities

In this section, Aeroplane Operators enter some data regarding corporate information and aviation activities. Data are entered manually for each Monitoring Plan created outside of section 2-a. Basic identity details in section 2-a are automatically drawn from the Corporate Registration Module of the Data Management System (Figure 16).



Figure 17: Section 2-a of the Monitoring Plans Module

#### 2.a Identification of the Aeroplane Operator

Name of the Aeroplane Operator

DEMO

Address of the Aeroplane Operator

Çankaya  
Ankara

### 6.2.3 Fleet and Operations Data

In this section, data about the aeroplanes registered at the Aeroplane Operator's fleet and the aviation operations carried out are entered. Data entries to sub-sections except for the sub-sections 3.1, 3.a1 and 3.e1 are based on an "open-ended" or "short text" responding system:

#### 3.a Fleet declaration during the Monitoring Plan (domestic and international):

In this subsection, Users should enter all aeroplane types available at the time of submission of the Emissions Monitoring Plan, specified under the Doc 8643-Aeroplane Type Designators, including the owned aeroplanes as well as the rented ones (Figure 17).



**Figure 18:** Fleet declaration at the time of submission of the 3.a Monitoring Plan (domestic and international)

**3.a Fleet declaration at the time of submission of the monitoring plan (international & domestic)**

List all aeroplane types, including owned aeroplane(s) as well as leased aeroplane(s) at the time of submission of the Emissions Monitoring Plan as specified in Doc 8643 — Aircraft Type Designators.

**New** **Clear All** **Import**

Total number of records: 0

Aeroplane model ↑	Owned aeroplanes	Leased aeroplanes	Fuel type ↑
-------------------	------------------	-------------------	-------------

Data can be entered in two ways in this sub-section (Figure 18):

Users click on the “*New*” button and fill in, according to the aeroplane types, the form that appears.

Users click on the “*Import*” button and upload to the system an Excel file that includes the aeroplane types.

Users can click on the “*Clear All*” button to erase the data entered by filling in the form or uploading an Excel file.

**3.a1 Additional aeroplane type to be included in the fleet:** In this sub-section, users should report the new aeroplane types they are planning to include in their fleets later (if they are planning) in the Monitoring Plan they create, during the period when the Monitoring Plan is valid. The buttons used while entering data in this sub-section and the new windows to open are similar to the ones in section 3.a (Figure 18).

**3.e List of State pairs where the Aeroplane Operator operates:** This sub-section is visible only to Users who do not apply for exemption for International Flights during the Compliance Period Application. In this context, the obligated Users should specify all State pairs where International Flights are already made. In doing that, they should enter the State pairs data as from the Departure State to the Arrival State. In this sub-section, data can be entered in two ways (Figure 19):

Users add the data on departure and arrival states by selecting from the relevant drop-down menu.

Users upload an Excel file that includes the departure and arrival state data to the system, by clicking on the “*Import*” button.



Figure 19: 3.e List of State pairs operated by the Aeroplane Operator

### 3.e List of State Pairs operated by the aero plane operator

Please list all State pairs where international flights are currently operated. If applicable, please list State pairs from the State of origin to the State of destination. For example, flights from State A to State B will require inserting a State pair A-B in the list; flights from State B to State A will require inserting a State pair B-A in the list.

Clear All Import

State of origin State of destination

State of origin \* State of destination \*

Total number of records: 0



If Users are going to enter more than 50 State pairs, they must attach such data as a separate document to the Emissions Monitoring Plan. For instance, flights from State A to State B should be indicated as A-B State pair on the list; flights from State B to State A, on the other hand, should be indicated as B-A State pair.

#### 6.2.4 Methods and Means for Calculating Emission

In this section, data on the methods and tools used by the Aeroplane Operator in emission calculations are entered. Data entries to sub-sections except for the sub-section "4.b" are based on an "open-ended", "multiple-choice" or "short text" responding system:

**4.b Fuel Use Monitoring Methods:** In this section, Users enter data that apply to every sub-fleet (according to the ICAO aeroplane type designator) and data on the use of the monitoring method they select during the Compliance Period Application. Users should enter all the ICAO Aeroplane Designator types by selecting from this sub-section (Figure 20).



Figure 20: 4.b Fuel Use Monitoring Methods

### Fuel Use Monitoring Method

#### 4.b Fuel Use Monitoring Methods

Please provide information on the use of di

Method Used

Method A

C295

EFAN

A318

Method A ICAO aeroplane designator

A400 A35K CN35 A319

### 6.2.5 Data Management

In this section, potential data regarding the tools, principles and methods used in-company by the Aeroplane Operator for the tracking and management of emissions are entered. In this section, data entries are built on the “open-ended” responding system and on entering “open-ended” data and uploading “document” through the new windows that will open by clicking on the “New” and “Choose File”, as in the case of sub-sections “a1” and “a3” (Figure 21):



Figure 21: Section 5 – Data Management

#### a.1 Systems used for data flow, processing and management

Please specify systems/software programme(s) that are used for Monitoring and Reporting purposes beginning with the source of the data up to the Emission Report.

Name of the system/software used	Purpose or Function of the system/software	Data processed and transferred	Responsible Department
<div>New</div>			

#### a.3 Data Flow Chart

Please attach a data flow chart to the EMP summarizing the systems used to record, store and control the quality of data associated with the monitoring and reporting of emissions. Please indicate inputs, outputs of the each system and the responsible departments.

Filename
<div>Select files</div>

### 6.2.6 Submission

In this section, the Monitoring Plan created with the data entered by the Aeroplane Operator until reaching this section is officially submitted to the opinion of the DGCA.

To submit the monitoring plan, Users should first create an output for the Monitoring Plan in PDF format, by clicking on the “Generate a PDF File” button in sub-section 6.2 (Figure 22). The information of “Date of Validity” asked to be selected must be the same date when the most up-to-date version of the Monitoring Plan is submitted online.



Figure 22: Generating the Monitoring Report PDF file

6.2 Create PDF

In order to submit the monitoring plan, first you need to create a PDF version of the plan by pressing Generate PDF button. After PDF is created you won't be able to edit the monitoring plan. Submission is completed when digitally signed version of the PDF file is uploaded in the next step.

Monitoring Plan is valid from: \*

01.02.2021

Explanation of changed chapters and amendments: \*

Deneme

Generate PDF Document



After the relevant file (PDF) is generated, some information available in the Monitoring Plan and defined as “*Immaterial Change*” can be edited without the need for any approval/rejection procedure, whereas some other information defined as “*Material Change*” cannot be edited **without the approval of the DGCA**. The sections where there are no Material and Immaterial Changes are listed below:

**If edited, sections that cause Material Change:** 2a / 2d1 / 2d2 / 3a2 / 3b / 3c / 3d / 3f / 3f1 / 3g / 3h / 4 (all) / 5.1 (all) / 5.2 (all) / 5.3 (all)

**If edited, sections that cause Immaterial Change:** 2b / 2c / 2c1 / 2d / 2e / 3a1 / 3b / 3e / 5.4 (all) / 5.5 (all)

In the next step, the Aeroplane Operator is obliged to sign digitally and upload the PDF file to the system. When this action is completed, the Monitoring Plan is submitted to the DGCA and the submitting procedure is completed (Figure 23).




Figure 23: Submitting the Monitoring Plan

### 6.3 Submit Monitoring Plan

**Document signed by the operator**

Your submission will be completed after uploading the digitally signed version the Monitoring Plan PDF. Please select and upload the document to complete submission.

Filename



Additionally, Users can view in this section the basic information on the Monitoring Plan submitted, such as “Compliance Period, Date of Validity, Version” (Figure 21).



Figure 24: Checking the Monitoring Plan

### 6.1 Check Monitoring Plan

#### Monitoring Plan Information

Operator	DEMO
Compliance Period	2021-2023
Valid from	01.02.2021
Version	0.0
Status	Draft



### 6.2.7 Checking the Monitoring Plan

MRV compliance transactions can be completed in the Monitoring Plans Module and the Aeroplane Operators that submit the Monitoring Plan to the DGCA can check the current status of their applications from the list “Monitoring Plans” available on the home page of the Module. Aeroplane Operators whose Monitoring Plans are rejected can view the reasons behind the rejection of their applications by clicking on the relevant line on the list shown in Figure 16.



Figure 25: Editing the Monitoring Plan

ID	Operator	Compliance Period	Status	Version	Created at	
ECA2	DEMO	2027-2029	Waiting for document upload	-	11.09.2021	Clone
3738	DEMO	2027-2029	Approved	2.0	01.08.2021	Clone
8954	DEMO	2021-2023	Approved	1.0	01.08.2021	Clone
BE62	DEMO	2021-2023	Rejected	-	31.07.2021	Clone

ID	Operator	Compliance Period	Status	Version	Created at	
EB03	DEMO	2027-2029	Draft	-	18.09.2021	Details
ECA2	DEMO	2027-2029	Waiting for document upload	-	11.09.2021	
3738	DEMO	2027-2029	Approved	2.0	01.08.2021	Clone
8954	DEMO	2021-2023	Approved	1.0	01.08.2021	Clone
BE62	DEMO	2021-2023	Rejected	-	31.07.2021	Clone

Aeroplane Operators should later click on the “Clone” button on the far right of the relevant line of the list, to edit the application in the light of the relevant reasons. They should create an editable copy of the application rejected by the DGCA for the Edited Monitoring Plan application and re-submit the revised file on which the necessary changes are applied over the copy to the opinion of the DGCA (Figure 25). The changes to be applied on the copy and the phases to be followed while sending the revised file will be similar to the phases followed while creating a new Monitoring Plan.

## 6.3 Emissions Reports Module



Aeroplane Operators can perform the following actions over the Emissions Reports Module:

- Creating an Emissions Report
- Assigning a Verification Body
- Submitting the created Emissions Report to the opinion of the Verification Body and the DGCA
- Editing the Emissions Reports submitted to the opinion of the Verification Body and the DGCA

This module consists of the 8 main sections listed below:

1. Aeroplane Operator Identification and Description Of Activities
2. Underlying Basic Information of The Emissions Report
3. Aeroplane Fleet and Fuel Types
4. Fuel Density Input
5. Reporting Aerodrome Pairs
6. Data Gaps
7. Verification Body
8. Submission

Users can start producing an Emissions Report for a Monitoring Plan, which was previously approved by the DGCA, by clicking on the “Add New” button on the home page of the Module (Figure 26). The relevant Compliance Period should be selected on the window that opens after clicking on this button (Figure 27).



Figure 26: Adding a new Emissions Report

≡ Emission Reports

Add New

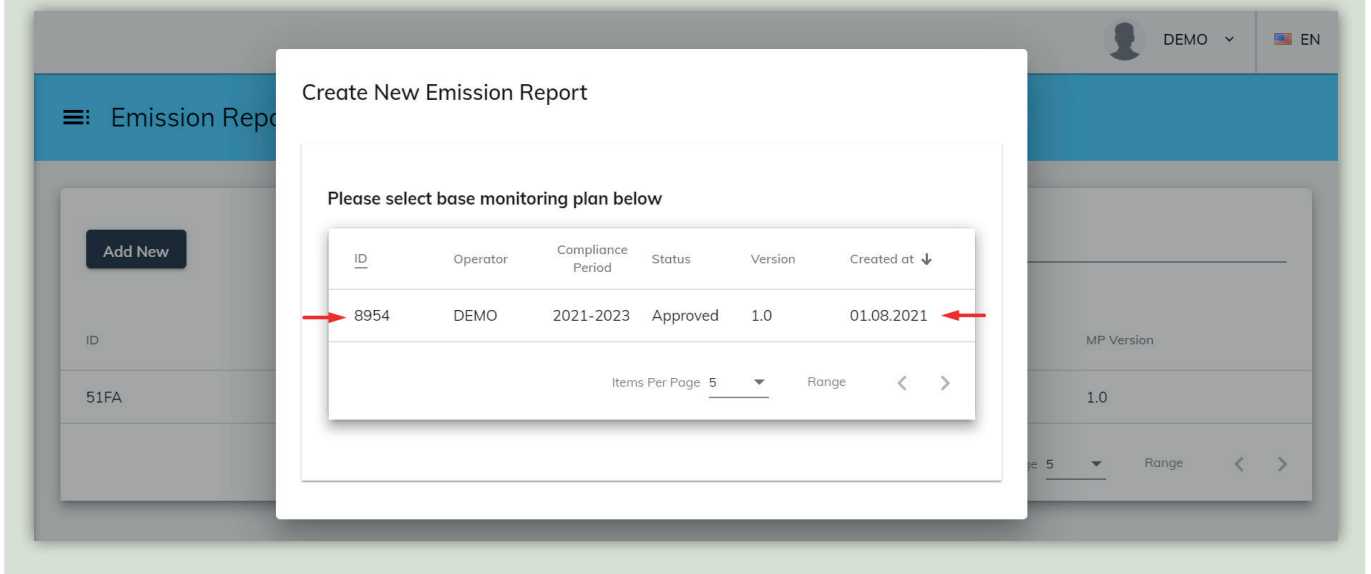
Filter

ID	Operator	Reporting Year	Emission Type	State	MP Version
51FA	DEMO	2021	Domestic	Draft	1.0

Items Per Page: 5 Range < >



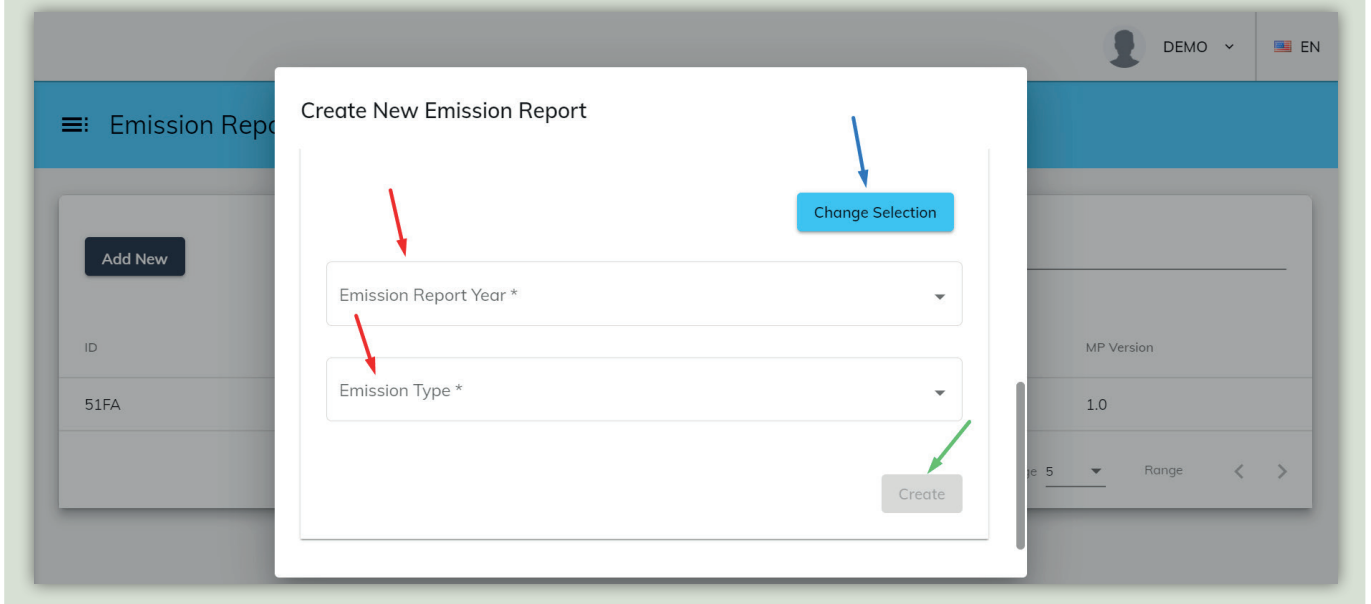
**Figure 27:** Adding a new Emissions Report – Selecting a Compliance Period



After selecting the Compliance Period, users should select the year for which the emissions will be reported<sup>9</sup>, on the new window that opens, and the flight type to be reported for that year<sup>10</sup>, before clicking on the “Create” button. Users can also go back to the Compliance Period selection page by clicking on the “Change selection” button (Figure 28).



**Figure 28:** Adding a new Emissions Report – Selecting the Reporting Year



<sup>9</sup> As provided for in the Order, Emissions Reports are prepared on an annual basis and on flight-type basis under the MRV Scheme for the Turkish Aviation Sector.

<sup>10</sup> The flight types an Aeroplane Operator is exempt from during a Compliance Period Application do not appear in that window.

Once the Aeroplane Operator creates an Emissions Report draft for Domestic and International Flights for a specific year within the relevant compliance period, that draft flight is listed together with the other Emissions Reports created for different flight types with different circumstances on the home page of the Section on Emissions Reporting (Figure 29). Creation of the Emissions Report starts by clicking on the line of the relevant draft on that list.



Figure 29: Home page of the Section on Emissions Reports

Add New

Filter

ID	Operator	Reporting Year	Emission Type	State	MP Version
51FA	DEMO	2021	Domestic	Draft	1.0
DAF1	DEMO	2021	International	Draft	1.0

Items Per Page 5
Range
<
>

### 6.3.1 Aeroplane Operator Identification and Description of Activities

In this section, the data entered in the Monitoring Plans Module for the corporate details and aviation activities of Aeroplane Operators appear automatically. In other words, Users do not enter any data in this section.

### 6.3.2 Underlying Basic Information of The Emissions Report

In this section, the Compliance Period including the year for which emissions will be reported and details of the Monitoring Plan verified by the DGCA for that Compliance Period, reporting year and reporting method (i.e., Fuel Use Monitoring Method and/or ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT)) appear automatically. Users should make a selection indicating the end of the Emissions Reporting period (Figure 30).



As long as Aeroplane Operators do not stop their flight activities during a reporting year, the relevant period is mostly the last day of the reporting year.



Figure 30: Emissions Report – End of the reporting period

## 2.b End of Reporting Period

Usually the last day of the reporting year, as long as the operator has not ceased flight operations during the reporting year.



### 6.3.3 Aeroplane Fleet and Fuel Types

In this sub-section, Users must enter all aeroplane types stated in the Emissions Monitoring Plan, specified under the Doc 8643-Aeroplane Type Designators, including the owned aeroplanes as well as the rented ones. A list of all aeroplane types can be accessed through an external link given in this section (Figure 31).

Data can be entered in two ways in this sub-section, as described in the Monitoring Plans Module (Figure 18 & Figure 31):

1. Users click on the “New” button and fill in, according to the aeroplane types, the form that appears.
2. Users click on the “Import” button and upload to the system an Excel file that includes the aeroplane types.

Users can click on the “Clear All” button to erase the data entered by filling in the form or uploading an Excel file.



Figure 31: Aeroplane Fleet and Fuel Types

Please list all aeroplanes with an MTOM greater than 5 700 kg (12 566 lbs) operated on international flights, as defined in Annex 16, Volume IV, Part II, Chapter 1, 1.1.2, and Chapter 2, 2.1, during the reporting period. If necessary, please attach a separate list. Please enter the ICAO aircraft type designator, as specified in Doc 8643 — Aircraft Type Designators, the registration marks and state whether the aeroplane is owned or leased. Please mark with an "X" applicable fuel(s) type(s) for each ICAO aircraft type designator (\*).

Additional information about Doc 8643 — Aircraft Type Designators can be found at:

<http://www.icao.int/publications/DOC8643/Pages/Search.aspx>  
er.h3\_hint4

New

Clear All

Import

Total number of records: 0

Aeroplane model

Registration Mark

Owned or Leased

Fuel type

### 6.3.4 Fuel Density Input

In this section, the statement for fuel density value selected previously in the Monitoring Plan (i.e., *Standard*, *Actual* or *Standard and Actual*) appears automatically. Additionally, in this section, Users are obliged to confirm, by marking the “Yes” option, that implementation of the density data for CORSIA is the same as the actual procedures used for operational reasons and security reasons.



Figure 32: Fuel Density Input

Emission Report Year:2027-İç Hat DEMO

4. FUEL DENSITY INPUT

4.a Fuel density value selected in Monitoring Plan

Standard and Actual

4.a1 Consistency

Please confirm that the application of density data for CORSIA purposes is fully identical to the actual procedures used for operational and safety reasons.

☒ Yes ☐ No

### 6.3.5 Reporting Aerodrome Pairs

In this section, Users enter data for all Aerodrome pairs operating in the reporting year. Users can enter data on aerodrome pairs by entering them on an Excel file draft that they can download from the system and by uploading this file that contains the aerodrome pairs. To this end, first, they must click on the "Import" button in sub-section 5c (Figure 33).



Figure 33: Table containing all Aerodrome Pairs

#### 5.c Table of all aerodrome pairs

Please list aerodrome pairs on which international flights were performed and enter the number of flights and the amount of CO2 emissions.  
(\*) For the purposes of this template, the fuel total could include the sum of equivalent fuels.

By means of the window that opens after clicking on this button, the relevant draft Excel file can be downloaded and the version of the draft revised with the Aerodrome Pairs data can be uploaded to the system. In case data are entered on the Excel file, instructions on the window that opens should be read (Figure 34).



Figure 34: Data entry for Aerodrome Pairs - import

When Users download the Excel file, information that applies to all aerodrome pairs, for which they entered data on the same window, are listed (Figure 35).

Figure 35: Data entry for Aerodrome Pairs – List of Aerodrome Pairs

**Aerodrome Pair Import**

- All data should be in the first sheet of the workbook.
- Click select excel file button and check preview section below.
- If data seems ok press import button at bottom of the form to transfer list to "Table of all aerodrome pairs" section.
- Click "Save Changes" button to save the data to the database.
- CO2 emissions data will be calculating automatically. Please cross check total CO2 emissions after importing.

>Please use following integers for fuel types:

- Jet Kerosene (Jet A - JetA1): 1
- Jet Gasoline (Jet B): 2
- Aviation Gasoline (AvGas): 3
- Biofuel: 4
- Other Alternative Fuel: 5

Select Excel file to import

Total number of records: 2

Preview of the data (first 5 records)

Departure ICAO Airport Code	Departure State	Arrival ICAO Airport Code	Arrival State	Fuel type	Total amount of fuel used (in tonnes)	Fuel conversion factor	Total # of flights	Estimated by CERT	Subject to offsetting
LTAY	TURKEY	LTAC	TURKEY	Jet Kerosene (Jet A - JetA1)	158	3.16	2	No	Yes
LTAB	TURKEY	LTAC	TURKEY	Aviation Gasoline (AvGas)	36	3.1	5	No	Yes

Cancel Import

Once the list appears, users should click on the "Import" button and complete the data entry procedure (Figure 36). The entered data on Aerodrome Pairs are ultimately listed in section 5c. Users can revise, wholly or partly, the data on Aerodrome Pairs, by means of the new window that will open when they click on the "Edit" button on the far right of the relevant line on this list. Besides, the relevant data entry can be erased permanently by clicking on the "Erase" button below the "Edit" button (Figure 37).

Figure 36: Data entry for Aerodrome Pairs – final list

**5.c Table of all aerodrome pairs**

Please list aerodrome pairs on which international flights were performed and enter the number of flights and the amount of CO2 emissions.  
(\*) For the purposes of this template, the fuel total could include the sum of equivalent fuels.

Export Clear All Save Changes Import Load from server Total number of records: 2

Departure ICAO Airport Code	Departure State	Arrival ICAO Airport Code	Arrival State	Fuel type	Total amount of fuel used (in tonnes)	Fuel conversion factor	Total # of flights	CO2 emissions (in tonnes)	Estimated by CERT	Subject to offsetting	Edit	Delete
LTAY	TURKEY	LTAC	TURKEY	Jet Kerosene (Jet A - JetA1)	158.00	3.16	2	499.28	No	Yes	Edit	Delete
LTAB	TURKEY	LTAC	TURKEY	Aviation Gasoline (AvGas)	36.00	3.10	5	111.60	No	Yes	Edit	Delete





**Figure 37:** Data entry for Aerodrome Pairs – editing data



Data should be entered for both directions between the Aerodrome pairs (as A-B and B-A), if applicable.

If Aeroplane Operators use different types of fuels for the same Aerodrome pair with different fuel conversion factors, they must create as many Aerodrome Pairs as the number of such scenarios and report this part of the fuel separately. In this context, it should be remembered that emissions from CORSIA eligible fuels are calculated using the fuel conversion factor obtained from the eligible aviation fuels.

If CORSIA eligible fuels are used during the reporting period, please also fill in the CORSIA eligible fuels report template.

### 6.3.6. Data Gaps

In this section, data are entered to fill in data gaps throughout the reporting year. Aeroplane Operators that have data gaps are obliged to fill in the relevant sub-sections.



Data gaps constitute the missing data necessary for the correct determination of CO<sub>2</sub> emissions, but, cannot be taken from primary resources and cannot be reconstructed from secondary resources.

### 6.3.7 Verification Body

In this section, Users assign a Verification Body that will evaluate the Emissions Report. A Verification Body can be assigned in two ways:

**1. Introduction to the DMS and assignment of a new Verification Body:** If the Verification Body to be assigned by an Aeroplane Operator for the relevant

Emissions Report will operate for the first time within the MRV Scheme for the Turkey's Aviation Sector, the Aeroplane Operator must introduce that Verification Body to the DMS, via the Verification Body. To accomplish the assignment, the e-mail address used for accreditation by the Verification Body must be entered in this section (Figure 38). Following this action, as the Verification Body was not previously registered at the MRV Scheme, information on the Verification Body is not presented to the User by the DMS and the User is asked to create a new verifier (Figure 39). The User can introduce a new Verification Body to the system, by entering the accreditation details of the Verification Body on a new window that opens when they click on the "Add a Verification Body to the System" button (Figure 40). Once the Verification Body is introduced, the User clicks on the "Assign this Verification Body" button, on the lower right of the sub-section "Available Verification Body Details" and the request for assigning the Verification Body is sent to the relevant Verification Body (Figure 41). The assignment process is completed when the Verification Body accepts that request.

**2. Assignment of a Verification Body registered at the DMS:** If the Verification Body to be assigned by the Aeroplane Operator for the relevant Emissions Report previously operated within the MRV Scheme for the Turkey's Aviation Sector and is, therefore, an organization registered at the DMS, the system will present the details of that Verification Body to the User, when the User enters the accredited e-mail address in the relevant search box and click on the "Find" button (Figure 38). In the next step, the User can click on the "Assign this Verification Body" button and send the request for assigning the Verification Body to the relevant Verification Body (Figure 41).



Figure 38: Searching for a Verification Body

VERIFICATION BODY

Assign a Verification Body

Find registered verification body

Please enter the e-mail address of the verification body and press find.

E-mail of the verification body \*

roguz.tosun@gmail.com

Find



Figure 39: Introducing a new Verification Body - 1

### Assign a Verification Body

**Find registered verification body**

Please enter the e-mail address of the verification body and press find.

E-mail of the verification body \*

Find

**No registered verification body found.**

You can add new verification body to system.

Add Verification Body to System



Figure 40: Introducing a new Verification Body - 2

Aviation MRV DMS of Turkey

DEMO  
demo@mail.com

OPERATOR

- Dashboard
- Compliance Periods
- Monitoring Plans
- Emission Reports
- Offsetting Requirement Calculations

### Verification Body

Name of the verification body \*

E-mail \*

Phone \*

Address of the verification body

Address of the verification body

DEMO

Sections

Find

Add Verification Body to System



Figure 41: Assigning a Verification Body

Found Verification Body Information

Assign this Verification Body

Name of the verification body \*

Carbon Killer

E-mail \*

roguz.tosun@gmail.com

Phone \*

12345

After the Aeroplane Operators complete the Emissions Reporting and assign a Verification Body, they should click on the “Verification Report in progress” to submit the report to the opinion of the Verification Body and grant access for the report to the Verification Body (Figure 42).



Figure 42: Granting access to the Verification Body

You must give access to the verification body to enable verification report editing. Once you give permission you won't be able to edit the emission report. When you need to make changes in emission report you need to set this setting off.

☐ Verification report editing is now Off

Resign Verification Body

You can resign the current verification body. **WARNING: Resigning the currently assigned verification body will result in deletion of the verification report. This action cannot be undone!**

Resign Verification Body



Aeroplane Operators cannot edit the Emissions Report after the Emissions Report is submitted to the Verification Body. If any change is required in the Emissions Report, they should revert it to inactive by clicking on this button again. **It is important to obtain confirmation from the authorized Verification Body before performing this action.**

In case of scenarios that entail replacing the Verification Body during the verification process, Aeroplane Operators can perform this action by clicking on the “Replace the Verification Body” button. On the other hand, as this action will lead to erasing the draft Verification Report, it cannot be undone (Figure 42).

#### 6.3.8 Submission

After the Verification Body verifies the Emissions Report and uploads an e-signed PDF output of the relevant Verification Report to the system<sup>11</sup>, the Aeroplane Operator must upload the verified Emissions Report to the system, to be submitted to the opinion of the DGCA. To this end, the Aeroplane Operator must first generate - over the Data Management System - a PDF output of the Emissions Report and then upload an e-signed copy of that output to the system - again over the DMS (Figure 43 and Figure 44).



Figure 43: Generating a PDF output of the Emissions Report

#### Create PDF

In order to submit the report, first you need to create a PDF version of the report by pressing Generate PDF button. Submission is completed when digitally signed version of the PDF file is uploaded in the next step.

Generate PDF Document



**Figure 44:** Uploading the Emissions Report to the system

**Submit Report**

**Document signed by the operator**

Your submission will be completed after uploading the digitally signed version of the report PDF. Please select and upload the document to complete submission.

Filename

Select files

Complete Submission

#### 6.4. Offsetting Requirement Calculations Module



Aeroplane Operators can perform the following actions over the Offsetting Requirement Calculations Module:

- Calculating the emission volume that needs to be subject to offsetting under CORSIA
- Preparing an Offsetting Requirement Calculation Report
- Submitting the generated Offsetting Requirement Calculation Report to the opinion of the DGCA
- Editing the Offsetting Requirement Calculation Reports submitted to the opinion of the DGCA

This module consists of the 6 main sections listed below:

1. Aeroplane Operator Identification and Description of Activities
2. Compliance Period Years Included in the Calculations
3. Offsetting Requirements Calculations
4. Emissions Reductions from the use of CORSIA Eligible Fuels
5. Aeroplane Operator's Total Final Offsetting Requirements for Compliance Period
6. Submitting the Offsetting Report

Users can click on the "Create" button on the home page of the Module and start preparing an Offsetting Requirement Calculation Report for an Emissions Report verified previously by the Verification Body and approved by the DGCA (Figure 45). To this end, the relevant Compliance Period and the year subject to offsetting calculation should be selected on the window that opens after clicking on that button (Figure 46).



Figure 45: Adding a new Offsetting Requirement Calculation Report

The screenshot shows the 'Offsetting Reports' page. At the top left, there is a 'Create' button. Below it is a table with the following columns: ID, Operator, Compliance Period, Status, and Created at. The table contains four rows of data. At the bottom right of the table, there is a 'Delete' button for each row. At the bottom right of the page, there is a pagination control showing 'Items Per Page 5' and a 'Range' selector.

ID	Operator	Compliance Period	Status	Created at
16FE	DEMO	2021-2023	Draft	21.08.2021
5643	DEMO	2021-2023	Draft	15.08.2021
C8AA	DEMO	2021-2023	Draft	15.08.2021
FEC6	DEMO	2027-2029	Approved	08.08.2021



Figure 46: Offsetting Calculation – Compliance Period and Year

The screenshot shows the 'Offsetting Reports' page with a modal form open. The modal form has two dropdown menus: 'Compliance Period' and 'Please select years'. There is a 'Create' button at the bottom right of the modal. The background shows the same table as in Figure 45.

Compliance Period

Please select years

Create

The DMS has been designed to allow sections 1. Identity Details of the Aeroplane Operator and 2. Compliance Period Years to automatically draw the relevant data from the associated Emissions Report. Aeroplane Operators should fill in the following sections carefully.

### 6.4.1 Offsetting Requirements Calculations

To calculate the offsetting requirements correctly, it is important that data entries in the following sections are completed elaborately:

**a) State Pairs / Flights subject to offsetting requirements:** In this sub-section, Users should filter and introduce to the system the aerodrome pairs by their ICAO membership status during the relevant emissions report year, to calculate the emissions that will be subject to offset. To this end, Users can download the relevant Excel draft from the window that opens when they click on the “Import” button (Figure 47). Then, they should only keep the member states of the ICAO during the relevant year and delete the nonmember states, amongst the states they make flights (take-off and landing) to and from, on the list of countries that can be viewed on that Excel file (Figure 49). Following that action, the relevant Excel file can be introduced to the system by using the “Choose a file to import” and “Import” buttons (Figure 48).



Figure 47: State pairs subject to offsetting requirements - 1

c) State Pairs/Flights subject to CO2 offsetting requirements

Please select the States included in ICAO document entitled "CORSIA States for Chapter 3 State Pairs" to define the State pairs subject to CO2 offsetting requirements in CORSIA in year: 2023 Participating States\*: Voluntarily Participating States for 2021-2027 period. After importing, press Save Changes button to update calculations depending on the state list.

Export Clear All Save Changes Import

Total number of records: 2

Participating States:



Figure 48: State pairs subject to offsetting requirements - 2

Import participating states

Important Notes:

- Please make sure your excel file has the correct column order as the sample excel file. The excel file should contain the same columns as the sample file. Download sample xlsx file, make changes and upload. **Sample File**
- You can download above file and delete non-participating states and upload modified excel file.

Select Excel file to import

Close Import





**Figure 49:** A sample file was generated for an Aeroplane Operator that conducted flights only from and to Germany and Turkey

	A	B
1	Code	State
2	82	Germany
3	224	Turkey
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		

When Users upload the Excel file, the information available for all state pairs they entered data for are listed on the same window. Once the list appears, they should click on the “Save Changes” button and complete the data entry action (Figure 50).



**Figure 50:** State pairs subject to offsetting requirements – 3

### c) State Pairs/Flights subject to CO2 offsetting requirements

Please select the States included in ICAO document entitled "CORSIA States for Chapter 3 State Pairs" to define the State pairs subject to CO2 offsetting requirements in CORSIA in year: 2023  
Participating States\*: Voluntarily Participating States for 2021-2027 period  
After importing, press Save Changes button to update calculations depending on the state list.

ExportClear AllSave ChangesImportTotal number of records: 2

Participating States
Germany
Turkey

Items Per Page: 5 Range

**b) Sectoral and Individual percentage values (Sy% and Oy%):** In this section, Users should enter the “Sectoral percentage value (Sy%)” and “Individual percentage value (Oy%)” that constitute inputs for the calculation of offsetting requirements and that pertain to the relevant emission year.



The following points must be considered in entering these data:

- In the calculations to be made for the emission years between 1 January 2021 and 31 December 2029, the Sy% and Oy% values will be taken as 0%.
- In the calculations to be made for the emission years after 1 January 2030, the Sy% and Oy% values will be determined by the DGCA and aeroplane operators will be informed accordingly.

**c) An Aeroplane Operator’s CO2 emissions from flights subject to offsetting requirements (OEy):** This section will be automatically calculated by the DMS and the calculation result will also appear automatically in the relevant box.

**d) An Aeroplane Operator’s Growth Factor (OGFy):** This section will be automatically calculated by the DMS and the calculation result will also appear automatically in the relevant box.

**e) Sectoral Growth Factor (SGFy):** Aeroplane Operators will enter the Sectoral Growth Factor (SGFy) as defined in the ICAO document titled CORSIA Annual Sectoral Growth Factor (SGF), available on the ICAO CORSIA website.

**f) An Aeroplane Operator’s total offsetting requirement (ORy) for 2023:** This section will be automatically calculated by the DMS and the calculation result will also appear automatically in the relevant box.

#### 6.4.2 Emissions Reductions from the Use of CORSIA Eligible Fuels

Data entered for the emissions reductions reached as a result of using CORSIA eligible fuel and the relevant calculations of emissions reductions volume appear automatically in this section of the associated Emissions Report (Figure 51).



**Figure 51:** Offsetting account – Emissions reductions

Fuel #1	
Total mass of a neat CORSIA eligible fuel claimed in the given year(MSfy):	45 tonnes
Emissions reduction factor (ERFf) of a CORSIA eligible fuel:	0.2
Life cycle emissions value for a CORSIA eligible fuel (LSf):	0.4 gCO2e/MJ
Baseline life cycle emissions values for aviation fuel (LC):	0.5 gCO2e/MJ
Fuel conversion factor(FCF):	3.16 kg CO2/kg fuel
Emissions reductions from the use of CORSIA eligible fuels in the given year (ERy):	28.44 tonnes of CO2
Total Emissions reductions from the use of CORSIA eligible fuels in the given year (ERy) 2023: 28.44 tonnes of CO2	

### 6.4.3 An Aeroplane Operator's Final Offsetting Requirements for the Compliance Period

An Aeroplane Operator's volume details for;

- CO2 emissions from all international flights
- CO2 emissions from flights subject to offsetting requirements
- Offsetting requirements in the emissions year
- Emissions reductions from the use of CORSIA eligible fuels
- Total offsetting requirements

are automatically calculated and appear in the table in this section (Figure 52).



Figure 52: Table of final offsetting requirements

Years		CO2 Emissions on all international flights (tonnes of CO2)	CO2 emissions from flights subject to offsetting requirements (tonnes of CO2)	Aeroplane operator's offsetting requirements in the given year (tonnes of CO2)	Emissions reductions from the use of CORSIA eligible fuels (tonnes of CO2)	Aeroplane operator's total offsetting requirements (tonnes of CO2)
2021-2023	2021					
	2022					
	2023	0.000	0.000	0.000	28.440	-28.440
TOTAL		0.000	0.000	0.000	28.440	-28.440

### 6.4.3 Submitting the Offsetting Report

Users should submit the Offsetting Requirement Calculation Report to the opinion of the DGCA, after completing the data entries related to the Report:

- Generating a PDF file of the Report
- Downloading the generated PDF file and digitally signing the downloaded file
- Uploading the signed document to the system

Status of the Report can be checked after being submitted to the opinion of the DGCA. In this context, reports approved by the DGCA can be offset and the relevant Emissions Unit Cancellation Report can be prepared, whereas rejected reports should be prepared again, according to the opinions given by the DGCA.



The offsetting Requirement Calculation Report is not submitted to the opinion of the Verification Body.

## 6.5 Emissions Unit Cancellation Module



Aeroplane Operators can perform the following actions over the Emissions Unit Cancellation Module:

- Entering data about the details of offsetting actions performed under CORSIA
- Preparing an Emissions Unit Cancellation Report
- Submitting the created Emissions Unit Cancellation Report to the opinion of the Verification Body and the DGCA
- Editing the Emissions Unit Cancellation Reports submitted to the opinion of the Verification Body and the DGCA

This module consists of the 5 main sections listed below:

1. Aeroplane Operator Identification and Description of Activities
2. Compliance Period Years Included in Calculations
3. Consolidated Identifying Information for Cancelled Emissions Units
4. Verification Body
5. Submission

Users can click on the “Create” button on the home page of the Module and start preparing an Emissions Unit Cancellation Report for an Offsetting Requirement Calculation Report previously approved by the DGCA (Figure 53). To this end, the relevant Compliance Period and the emission year subject to emission offsetting should be selected on the window that opens after clicking on that button (Figure 54).



Figure 53: Adding a new Emissions Unit Cancellation Report

ID	Operator	Compliance Period	Status	Created at ↓
3C4A	DEMO	2027-2029	Draft	08.08.2021

Items Per Page 5 Range < >



**Figure 54:** Emissions Unit Cancellation Module - Selecting a Compliance Period and Year

The DMS has been designed to allow section 1. Identity Details of the Aeroplane Operator to automatically draw the relevant data from the associated Emissions Report. Aeroplane Operators should fill in the following sections carefully.

#### 6.5.1 Compliance Period Years Included in Calculations

The only action that needs to be taken by Users is to enter the total volume of the redeemed emissions unit to comply with the final offsetting requirement included in the verified and approved Offsetting Requirement Calculation Report (Figure 55). All the other data in this section will be filled in automatically by the DMS.



**Figure 55:** An Aeroplane Operator's total final offsetting requirements and the total amount of cancelled emissions units

**c) Aeroplane operator's total final offsetting requirements and total quantity of emissions units cancelled**

Please complete the table below in accordance with the aeroplane operators emissions reports for the corresponding reporting years as well as information provided by the State on total final offsetting requirements for a given compliance period.

Aeroplane operator's total final offsetting requirements (in tonnes), as informed by the State**:	0
Total quantity of emissions units cancelled to reconcile the total final offsetting requirements, as informed by the State***:	

\*\*Please note that the total final offsetting requirement corresponds, as stated in Annex 16, Volume IV, Chapter 3, 3.4.1., to the sum of offsetting requirements in the years of a given compliance period minus any emission reductions from use of CORSIA eligible fuels during a given compliance period. Please enter full values in tonnes only, without any decimal points. Please note that the calculation of the total final offsetting requirement according to Annex 16, Volume IV, Chapter 3.4.1. might also lead to a negative value if emissions reductions from the use of CORSIA eligible fuels are greater than the offsetting requirement. In case the value is negative please enter a minus "-" in front of the number. Please note that in such a case according to Annex 16, Volume IV, Chapter 3.4.2. an aeroplane operator has no offsetting requirement for the respective compliance period. However, please also note that according to Annex 16, Volume IV, Chapter 3.4.2. a negative total final offsetting requirement shall not be carried over to subsequent compliance periods.

\*\*\*This field refers to the entire quantity of all emissions units an aeroplane operator has cancelled to reconcile the total final offsetting requirement. Please enter full values only, without any decimal points.

## 6.5.2 Consolidated Identifying Information for Cancelled Emissions Units

In this section, Users should introduce to the system the emissions units cancelled to meet offsetting requirements. To this end, Users can download the relevant Excel draft from the window that opens when they click on the “Import” button (Figure 47). Then, they should only keep the member states of the ICAO during the relevant year and delete the nonmember states, amongst the states they make flights (take-off and landing) to and from, on the list of countries that can be viewed on that Excel file (Figure 49). Following that action, the relevant Excel file can be introduced to the system by using the “Choose a file to import” and “Import” buttons (Figure 48).



Figure 56: Emissions Unit Cancellation Report - Import

a) Consolidated identifying information for cancelled emissions units

Emissions Units are generated within a program registry and contain serial numbers like banknotes. In a program registry the serial numbers are mostly implemented as 'blocks' of consecutive numbers, with a start block and an end block (batch). Blocks are also referred to as batches. For example, a set of cancelled emissions units with serial numbers starting at 'XYZ001' and ending at 'XYZ005', (five units in total), would be one batch. If an aeroplane operator is also reporting a set of cancelled emissions units starting at 'XYZ007' and ending at 'XYZ050', these units would constitute a second batch, and therefore require filling another row as a second entry and so on. Wherever possible please try to enter the batches of the same eligible emissions unit program in ascending order according to their serial numbers. In case an aeroplane operator has cancelled batches of units from more than one eligible emissions unit program please just continue to fill out the rows as described above and indicate each specific eligible program in the respective rows and columns.  
Please identify the following for each batch:

Export Clear All Import

Total number of records: 245

Quantity	Serial N. Start	Serial N. End	Date of cancellation	Eligible emissions unit program	Unit Type	Host country	Methodology	Project First Crediting Period Start Date	Period of time during which emissions reductions occurred	Unique identifier for registry account to which the batch was cancelled	Aeroplane operator in whose name the unit was cancelled	Unique identifier for the registry account from which the cancellation was initiated
----------	-----------------	---------------	----------------------	---------------------------------	-----------	--------------	-------------	---	---	---	---	--



Figure 57: Emissions Unit Cancellation Report - Excel draft

Serial numbers(i)		Date of cancellation(iii)	Eligible emissions unit program(iiv)	Unit type(v)	Host country(vi)	Methodology(vii)	Demonstration of unit date eligibility(viii)		Unique identifier for registry account to which the batch was cancelled(ix)	Aeroplane operator in whose name the unit was cancelled(x)	Unique identifier for the registry account from which the cancellation was initiated(xi)
Start(xii)	End(xiii)						Project First Crediting Period Start Date	Period of time during which emissions reductions occurred			
uof-123	uof-123	13.03.2021	unit program	unit type	Host country	method	5.04.2020	6.12.2020	UIUDDDD	Pegasus	UIUHHDDU43



To facilitate entering data in the Excel draft for Aeroplane Operators, routing links to official references for the relevant information are embedded in each cell. These links should be viewed carefully before entering data. Besides, Aeroplane Operators must ensure that the file they upload to the DMS is under the same column and number as the sample Excel file.



Figure 58: Emissions Unit Cancellation Report - Import 2

Import cancelled emission unit data

**Important Notes:**

- Please make sure your excel file has the correct column order as the sample excel file. The excel file should contain the same columns as the sample file. Download sample xlsx file, make changes and upload. [Sample File](#)

Select Excel file to import

Close Import

### 6.5.3 Verification Body

In this section, Users assign a Verification Body that will evaluate the Emissions Unit Cancellation Report. A Verification Body can be assigned in two ways:

**1. Introduction to the DMS and assignment of a new Verification Body:** If the Verification Body to be assigned by an Aeroplane Operator for the relevant Emissions Unit Cancellation Report will operate for the first time within the MRV Scheme for the Turkey's Aviation Sector, the Aeroplane Operator must introduce that Verification Body to the DMS, via the Verification Body. To accomplish the assignment, the e-mail address used for accreditation by the Verification Body must be entered in this section (Figure 59). Following this action, as the Verification Body was not previously registered at the MRV Scheme, information on the Verification Body is not presented to the User by the DMS and the User is asked to create a new verifier (Figure 60). The User can introduce a new Verification Body to the system, by entering the accreditation details of the Verification Body on a new window that opens when they click on the "Add a Verification Body to the System" button (Figure 61). Once the Verification Body is introduced, the User clicks on the "Assign this Verification Body" button, on the lower right of the sub-section "Available Verification Body Details" and the request for assigning the Verification Body is sent to the relevant Verification Body (Figure 62). The assignment process is completed when the Verification Body accepts that request.

**2. Assignment of a Verification Body registered at the DMS:** If the Verification Body to be assigned by the Aeroplane Operator for the relevant Emissions Unit Cancellation Report previously operated within the MRV Scheme for the Turkey's Aviation Sector and is, therefore, an organization registered at the DMS, the system will present the details of that Verification Body to the User, when the User enters the accredited e-mail address in the relevant search box and click on the "Find" button (Figure 59). In the next step, the User can click on the "Assign this Verification Body" button and send the request for assigning the Verification Body to the relevant Verification Body (Figure 62).



Figure 59: Searching for a Verification Body

## DOĞRULAYICI KURULUŞ

### Bir Doğrulayıcı Kuruluş atayınız

**Kayıtlı Doğrulayıcı Kuruluş bulunuz**

Lütfen, Doğrulayıcı Kuruluşun E-posta adresini giriniz ve bul düğmesine basınız.

E-mail of the verification body \*

Bul



Figure 60: Introducing a new Verification Body - 1

## Assign a Verification Body

**Find registered verification body**

Please enter the e-mail address of the verification body and press find.

E-mail of the verification body \*

Find

**No registered verification body found.**

You can add new verification body to system.

Add Verification Body to System





Figure 61: Introducing a new Verification Body - 2

Aviation MRV DMS of Turkey

DEMO  
demo@mail.com

UÇAK İŞLETİCİSİ

- Gösterge Paneli
- Uyum Dönemleri
- İzleme Planları
- Emisyon Raporları
- Denkleştirme Gerekliliği Hesapları
- Emisyon Faktör Hesaplamaları

Sections

Bul

**Verification Body**

Name of the verification body \*

E-posta \*

Telefon \*

Address of the verification body



Figure 62: Assigning a Verification Body

Assign this Verification Body

Name of the verification body \*

Carbon Killer

E-mail \*

roguz.tosun@gmail.com

Phone \*

12345

Address of the verification body

Address \*

deneme

City \*

deneme

State/Province/Region \*

deneme

After the Aeroplane Operators complete the Emissions Unit Cancellation Reporting and assign a Verification Body, they should click on the “Verification Report in progress” to submit the report to the opinion of the Verification Body and grant access for the report to the Verification Body (Figure 63).



Figure 63: Granting access to the Verification Body

You must give access to the verification body to enable verification report editing. Once you give permission you won't be able to edit the emission report. When you need to make changes in emission report you need to set this setting off.

☐ Verification report editing is now Off

#### Resign Verification Body

You can resign the current verification body. **WARNING: Resigning the currently assigned verification body will result in deletion of the verification report. This action cannot be undone!**

Resign Verification Body



Aeroplane Operators cannot edit the Emissions Unit Cancellation Report after the Emissions Unit Cancellation Report is submitted to the Verification Body. If any change is required in the Emissions Unit Cancellation Report, they should revert it to inactive by clicking on this button again. **It is important to obtain confirmation from the authorized Verification Body before performing this action.**

In case of scenarios that entail replacing the Verification Body during the verification process, Aeroplane Operators can perform this action by clicking on the “Replace the Verification Body” button. On the other hand, as this action will lead to erasing the draft Verification Report, it cannot be undone (Figure 63).

#### 6.5.4 Submission

After the Verification Body verifies the Emissions Unit Cancellation Report and uploads an e-signed PDF output of the relevant Verification Report to the system<sup>12</sup>, the Aeroplane Operator must upload the verified Emissions Unit Cancellation Report to the system, to be submitted to the opinion of the DGCA. To this end, the Aeroplane Operator must first generate - over the Data Management System - a PDF output of the Emissions Unit Cancellation Report and then upload an e-signed copy of that output to the system - again over the DMS (Figure 64 ve Figure 65).

<sup>12</sup> When the Verification Body uploads the Verification Report to the System, Status of the Emissions Unit Cancellation Report will be updated as “Verified”.



**Figure 64:** Generating a PDF output of the Emissions Unit Cancellation Report

## Create PDF

In order to submit the report, first you need to create a PDF version of the report by pressing Generate PDF button. Submission is completed when digitally signed version of the PDF file is uploaded in the next step.

Generate PDF Document



**Figure 65:** Uploading the Emissions Unit Cancellation Report to the system

## Submit Report

### Document signed by the operator

Your submission will be completed after uploading the digitally signed version of the report PDF. Please select and upload the document to complete submission.

Filename

Select files

Complete Submission

## 6.6 Verification Reports Module



Verification Reports Module is a module open for access only by accredited Verification Bodies, within the Data Management System. Verification Bodies can perform the following actions over the Verification Reports Module:

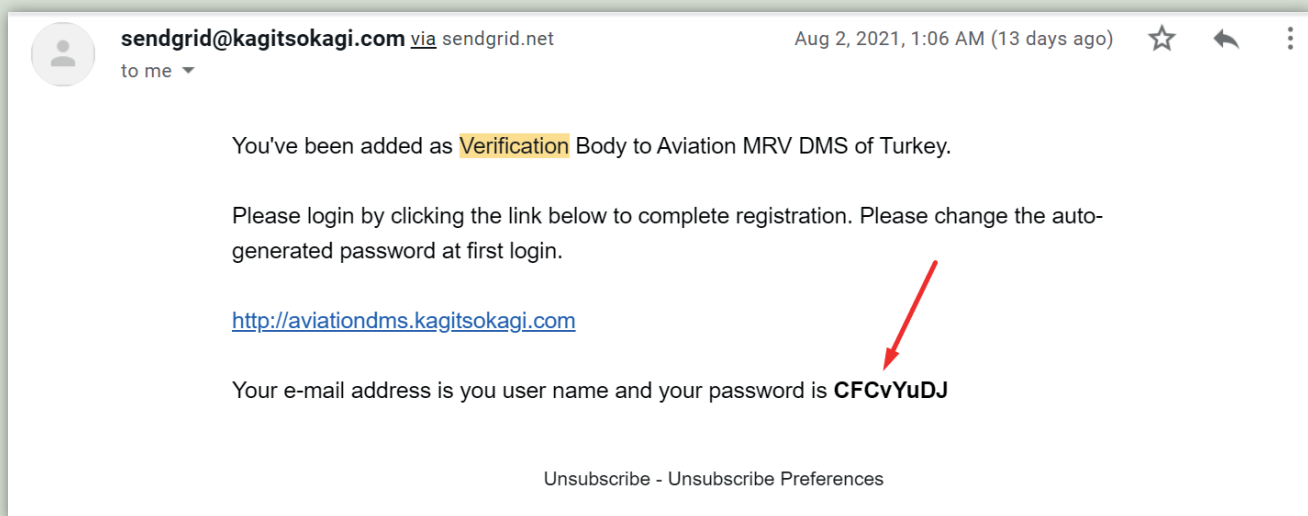
- Accepting the Verification Body assignments by Aeroplane Operators for the Verification Bodies themselves and creating a user account
- Accessing the Emissions Reports prepared by Aeroplane Operators (Domestic and International) and evaluating those reports
- Accessing the Emissions Unit Cancellation Reports prepared by Aeroplane Operators and evaluating those reports
- Re-opening for access by Aeroplane Operators the Emissions Reports and Emissions Unit Cancellation Reports that are found non-satisfactory
- Verifying the Emissions Reports and Emissions Unit Cancellation Reports that are found satisfactory

### How does a Verification Body log in the DMS?

A Verification Body that will operate for the first time under the DMS should be introduced to the system by the Aeroplane Operator, which performs the aviation activities to be subject to a verification process, as described in the 4.3 Emissions Reports Module. Once the Verification Body is introduced to the system, an e-mail with the user password required to log in the DMS is sent to the e-mail address of the Verification Body (Figure 45). The Verification Body can log in the system by using the password sent in that e-mail and the e-mail address. The e-mail address which was introduced to the system as the username and to which the password was sent should be entered (Figure 66).



Figure 66: Account activation e-mail sent to the Verification Body by the DMS





**Figure 67:** Logging in with a Verification Body Account

A login form with three input fields and a button. The first field is labeled 'User ID' and contains the email 'roguz.tosun@gmail.com'. The second field is labeled 'Password' and contains a masked password '.....'. The third field is labeled 'Login as:' and has a dropdown menu with 'Verification Body' selected. Below the fields is a blue button labeled 'LOGIN'.

This module consists of the 2 main sections listed below:

**1. Introduction Section:** Numbers of the Verification Reports that were completed on the home page of the Verification Report and that are in the preparation phase (Figure 68), as well as the identity details of the Verification Body (Figure 69).



**Figure 68:** Home Page of the Verification Module – Number of Verification Reports

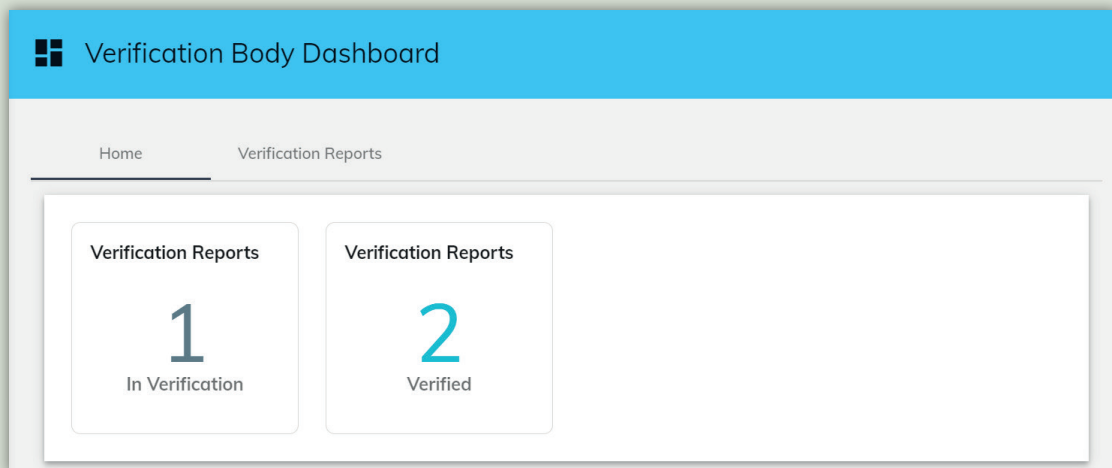




Figure 69: Home Page of the Verification Module – Identity details of the Verification Body

Verification Body Profile

Doğrulayıcı kuruluşun adı \*  
Carbon Killer

E-posta \*  
roguz.tosun@gmail.com

Telefon \*  
12345

Doğrulayıcı kuruluşun adresi

Adres \*  
deneme

Şehir \*  
deneme

Ülke / Şehir / Bölge \*  
deneme

Posta kodu / ZIP \*  
1234

Verification Reports Section: Emissions Reports and Emissions Unit Cancellation Reports are listed following the information on:

- Aeroplane Operator
- Reporting Year
- Compliance Period
- Emission Type
- Report (verification) Status

in the Verification Reports Section (Figure 49). By clicking on the documents listed in the Verification Reports Section, the Verification Body can;

- Obtain information about the final versions of the verification reports or
- Continue the verification process.



Figure 70: Verification Reports Section

Verification Body Dashboard

Home Verification Reports

Verification of Emissions

Operator	Reporting Year	Emission Type	Emission Report State
DEMO	2027	Domestic	Verified
DEMO	2021	International	Verified
DEMO	2022	International	Submitted
DEMO	2023	International	Submitted
DEMO	2021	International	Verified

Items Per Page 5 Range < >



When a Verification Body is assigned by an Aeroplane Operator for the verification of any Emissions Report or Emissions Unit Cancellation Report, the Status of that report will appear as "In the process of verification" in the Verification Reports Section.

### 6.6.1 Verification of Emissions and Unit Cancellations

When the Verification Body will reach the sub-sections of the Verification Report Profile and Scope of the Verification Report, on the page that opens by clicking on the Emissions Report and the Emissions Unit Cancellation Report subject to verification. In the sub-section of the Verification Report Profile, the Verification Body can view the Emissions Unit Cancellation Report, the Emissions Report and the Monitoring Plan associated with those reports (Figure 50). Moreover, the Verification Body should make an appropriate choice according to the section of the relevant emissions report (containing or not containing CORSIA eligible fuels), from the list that opens up in the sub-section "Scope of the Verification Report".



Figure 71: Verification Profile

The screenshot shows two sections of a web interface. The top section, titled 'Verification Report Information', contains the following data:

Operator	DEMO	Emission Report	<a href="#">See Emission Report</a>
Compliance Period	2021-2023	Scope of Verification Report	-
Reporting Year	2022	Emission Type	Dig Hat
Status	Doğrulama sürecinde	Verification Body	Carbon Killer
		Issue Date	-
		Verification Concluding Statement	-

The bottom section, titled 'Emission Report Information', contains the following data:

Operator	DEMO	Status	In Verification
Compliance Period	2021-2023	Issue Date	-
Reporting Year	2022	Monitoring Plan	<a href="#">See Monitoring Plan</a>
Reporting Year	International		

After selecting the scope of the verification report, the Verification Body should fill in and complete the following sections following the type and content of the Emissions Unit Cancellation Report or the Emissions Report, for the Verification of Emissions:

- Introduction
- Time Allocation
- General Information
- Process and Analysis
- Final Verification Statement
- Submitting the Report

Information on the Verification Team Leader and the Independent Auditor should be entered in the sub-section "Introduction". If the contact information of the Verification Team Leader is different from the User information, the relevant address details should be provided in the section "a2. Information on the Verification team members" (Figure 72).



Figure 72: Entering the Verification Body Details

The screenshot shows a form titled "Verification Body Details" with three main sections:

- a1. Information on verification body**
- a2. Information on verification team members**  
Please enter the contact information of the verification team leader and other team members (if available)  
Add Team Member
- a3. Information on independent reviewer**  
Please enter the contact information of the independent reviewer.  
Add Independent Reviewer



The screenshot shows a modal form titled "Verification Team Member" with the following fields:

- Position within the company \*
- Full name \*
- Role and expertise of the team member within the verification team \*
- Academic title \*
- E-mail \*



More than one Independent Auditors can be added in the a2 section.



After completing the Time Allocation, General Information, and Process and Analysis sections, the User should complete the Final Verification Statement to submit the results of the verification action.

In the Verification Statement section, the User should fill in; the “Results of the independent audit” sub-section by filling in the relevant open-ended answer box (); the “Final Verification Statement” sub-section by selecting one of the following options in compliance with the result obtained throughout the verification action ():

- **Verified as satisfactory:** If this option is chosen, it means that the relevant report is verified. After this verification report is delivered, the relevant Aeroplane Operator can submit the verification report and its associated report (the Emissions Report or the Emissions Unit Cancellation Report) to the opinion of the DGCA.
- **Verified as satisfactory with comments:** If this option is selected, the User fills in a new sub-section titled “Satisfactory with comments” and clarifies, separately, the “misstatements” and “nonconformities” detected in the relevant report. After this verification report is delivered, the relevant Aeroplane Operator can submit the verification report and its associated report (the Emissions Report or the Emissions Unit Cancellation Report) to the opinion of the DGCA.
- **Verified as non-satisfactory:** If this option is selected, the User fills in a new sub-section titled “Non-satisfactory” and describes the reasons behind why this report is non-satisfactory, by choosing one or more of the following options:
  - There are material misstatements and/or material nonconformities.
  - Scope of verification is highly limited.
  - The Verification body is not sufficiently assured about the data.

In addition to the above reasons, if there is any other information the User wants to add to the report and its content, the User can include such argument in the content of the verification report by using the “Other remarks” section. After this verification report is delivered, the relevant Aeroplane Operator cannot submit the verification report and its associated report (the Emissions Report or the Emissions Unit Cancellation Report) to the opinion of the DGCA. The verification process continues until the reasons shared in this section, which make the report non-satisfactory, are eliminated.

### 6.6.2 Submitting the Verification Report

After the Verification Body produces the Verification Report, the report must be uploaded to the system, to be submitted to the attention of the Aeroplane Operator. To this end, the Aeroplane Operator must first generate - over the Data Management System - a PDF output of the Verification Report and then upload an e-signed copy of that output to the system - again over the DMS (Figure 73 ve Figure 74).



**Figure 73:** Generating a PDF output of the Emissions Report

Create PDF

In order to complete the verification, first you need to create a PDF version of the verification report by pressing Generate PDF button. After PDF is created you won't be able to edit the verification report. Submission is completed when digitally signed version of the PDF file is uploaded in the next step.

Generate PDF Document



**Figure 74:** Uploading the Emissions Report to the system

Complete Verification

Document signed by the verification Body

Your verification process will be completed after uploading the digitally signed version the Verification Report PDF. Please select and upload the document to complete verification.

Filename

Select files

Complete Verification



## Abbreviations

BMUB	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
CA	Competent Authority
DMS	Data Management System
GDEM	General Directorate of Environmental Management in the Ministry of Environment and Urbanization
GDEIA	General Directorate of Environmental Impact Assessment in the Ministry of Environment and Urbanization
GHG	Greenhouse Gas
GIZ	Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH German International Cooperation
IKI	Internationale Klimaschutz Initiative International Climate Initiative
MoEU	Ministry of Environment and Urbanization of Turkey
MRV	Monitoring, Reporting and Verification
NDC	Nationally Determined Contributions

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**REPUBLIC OF TURKEY  
MINISTRY OF ENVIRONMENT,  
URBANIZATION AND CLIMATE CHANGE**

On behalf of:



**Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety**

Implemented by

**giz**

Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

**of the Federal Republic of Germany**

This project is part of the International Climate Initiative (ICI), The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag



**REPUBLIC OF TURKEY  
MINISTRY OF TRANSPORT  
AND INFRASTRUCTURE**



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