Tutorial for aircraft operators

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Title: Tutorial for aircraft operators - How to monitor, report and verify emissions under CORSIA and EU ETS for 2019 and 2020?

Welcome to the tutorial.

This presentation is provided by the German Emissions Trading Authority and is intended for

- German and European aircraft operators administered by Germany for the purposes of the Carbon Offsetting and Reduction Scheme for International Aviation (in short CORSIA) and for
- German, European and Non-European aircraft operators administered by Germany for the purposes of the European Union Emissions Trading System (in short EU ETS).

The objective of the different sessions included in this tutorial is to provide guidance how aircraft operators will have to monitor, report and verify emissions under CORSIA and the EU ETS for the reporting years 2019 and 2020.

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Title: Disclaimer

Being an authority it might not come as a surprise to begin a tutorial with a legal disclaimer. However, please keep in mind the following points when watching this video:

- The content of the tutorial serves as guidance only.
- The information provided is neither legally binding on the German Emissions Trading Authority (DEHSt) nor does the content give rise to any claim of aircraft operators.
- The tutorial is only available in English language. Should you require further assistance in German, please contact our customer service.
- The tutorial was produced in January 2019, information provided might not be up to date anymore as some legal texts are still under scrutiny and/or might have been revised.
- Please take note of any additional information or updates provided on the website you presently use to watch this tutorial.
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Title: Objective of this tutorial
Before presenting the agenda of this tutorial, we will shed some more light on the content to be expected.

In the following, we have listed some key questions we believe are critical to be answered for the reporting years 2019 and 2020. We have identified most of these questions while communicating with aircraft operators on an individual basis but would now like to share our replies and advice with a wider audience.

Some of these questions are...

▸ When will CORSIA begin?
▸ Does CORSIA replace the EU ETS?
▸ Is an international flight within the European Economic Area covered by the EU ETS or CORSIA or both?
▸ How different is CORSIA MRV in comparison to an adjusted EU ETS MRV?
▸ Which parts of the former EU ETS MRV are subject to change to adjust to CORSIA MRV (adjusted EU ETS MRV)?
▸ Can an operator now use all five monitoring methods under CORSIA for the EU ETS as well?
▸ Do I need to submit a new monitoring plan and where do I find the template?
▸ To whom can I turn to in case of questions?

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Title: Agenda
The first session aims to provide some basic information on CORSIA and the EU ETS. This is just to make sure that all listeners are on the same page and have the same background knowledge before moving on to the second and more complex session.

The second session will focus on different categories of flights to explain which flights are covered under the EU ETS and which under CORSIA.

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Title: Agenda
...introduces you to the main aspects of monitoring, reporting and verification for the reporting years 2019 and 2020.

Our starting point will be to have a short glance on the actual approach taken by the European Union to implement CORSIA which consists of three parts...

A delegated regulation...

A revision of the EU ETS Monitoring and Reporting Regulation and...

...a revision of the Accreditation and Verification Regulation.

Detailed information will be provided in each sub section.
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Title: Agenda
...the next steps aircraft operators would need to take to comply with the revised legal provisions. And as you can see from the agenda already, it will be necessary to submit an updated monitoring plan for the EU ETS.

However, we will assist you with more detailed information later in the tutorial but we can already now inform you that we did our best to come up with an approach which reduces the administrative burden for operators.

...and of course, there will be the possibility to provide us with feedback and ask questions

...by the way, this will also include an option to publish your question and our answer on our website.

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Title: Agenda
...look at some CORSIA background information.

Slide number: 8

Title: Some background on CORSIA and the EU ETS
Once again we will start with some key questions to manage expectations for this part of the tutorial. Amongst others, we will be addressing the following topics in relation to CORSIA.

▶ When will CORSIA begin?
▶ Does CORSIA replace the EU ETS?

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Title: CORSIA fundamentals (I)
CORSIA is the abbreviation for “Carbon Offsetting and Reduction Scheme for International Aviation” and is a climate protection measure of the International Civil Aviation Organization (ICAO).

ICAO is a specialized agency of the United Nations and has the task to promote the safe and orderly development of international civil aviation. At the moment ICAO has 192 Member States.

ICAO has agreed on the so-called carbon neutral growth CNG2020. This means that the growing carbon emissions above the year 2020 will have to be offsetted by aeroplane operators.

However, it is important to mention that CORSIA is not the one and only measure to tackle climate change. ICAO has developed a basket of measures consisting of other more technical approaches to reduce the climate impact of international aviation, such as operational improvements and new aircraft technology. Consequently, CORSIA is a complementary measure.

Important to keep in mind – CORSIA addresses international flights only as ICAO is an UN agency with a focus on international matters.
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Title: CORSIA fundamentals (II)

Basically, there are three different types of documents.

Annex 16, Volume IV contains the CORSIA-related Standards and Recommended Practices – abbreviated as SARPs. The SARPs were adopted by the ICAO Council in June 2018 and are applicable from 01 January 2019 on. It is actually called Annex because it is the 16th Annex to the Chicago Convention, meaning the Convention on International Civil Aviation which itself established the International Civil Aviation Organization. Annex 16 addresses environmental matters, Volume IV now contains all relevant rules for States, aeroplane operators, national accreditation bodies and verification bodies to implement and operate CORSIA. SARPs have the highest level of bindingness within the ICAO rulemaking framework.

Moving on to the next document relevant for CORSIA...

The Environmental Technical Manual (abbreviated as ETM) with the document number 9501, provides guidance on how to apply Annex 16, Volume IV. The document has no binding character but provides detailed background information and supportive practical examples.

The last document is called CORSIA Implementation Elements and is more a website than an actual physical document. Given some rather flexible aspects of CORSIA such as the options for States to participate on a voluntary basis at the beginning of the scheme, made it necessary to develop an easily adjustable document which can be updated without revising Annex 16, Volume IV. Consequently, Annex 16, Volume IV contains references to the CORSIA Implementation Elements. The corresponding website allows for instance to download the latest version of the ICAO CORSIA CO₂ Estimation and Reporting Tool. A similar tool as the Small Emitters Tool under the EU ETS.

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Title: CORSIA fundamentals (III)

There is good news, as all documents can be found free of charge on the ICAO website. Moving on to some more technical information on CORSIA...

CORSIA is being implemented in different phases...

First, during the baseline period aeroplane operators are requested to monitor, report and verify carbon emissions on all international flights. This data will be used to establish the baseline (which is being calculated by the average emissions of the years 2019 and 2020). This is done to allow for the offsetting calculations to achieve the Carbon Neutral Growth 2020 objective.

The baseline period is followed by the pilot and the first phase. Once again all international flights have to be monitored. However, this time States can volunteer to take part in an offsetting obligation. If two States have decided to take part in this voluntary phase of CORSIA, flights of all aeroplane operators between these States are subject to an offsetting obligation. This is why CORSIA is sometimes referred to as a route based system.

It is important to clearly distinguish between the reporting and the offsetting obligation. As a rule of thumb, during the full lifetime of CORSIA, every international flight has to be monitored, reported and verified. So the offsetting obligation is “just” an add-on to this general reporting obligation.

In the second phase of CORSIA, this offsetting becomes mandatory on all routes between all States. However, there are several exemptions, e.g. for routes to least developed countries or to States with just a very small proportion of international air traffic.

As outlined at the beginning of the tutorial, this presentation only focusses on the Baseline Period.

As an important piece of information to keep in mind, monitoring of international emissions has started at 01 January 2019 already and you have been or you will soon be requested by your administering authority to submit a monitoring plan. Annex 16, Volume IV specifies a deadline for the submission of the monitoring plan until 28 February 2019.
Title: CORSIA fundamentals (IV)

What is important to be aware of is that the Annex 16, Volume IV is not directly applicable to aeroplane operators. It first has to be transferred into national law. That’s nothing CORSIA specific as it is the same for all ICAO Annexes and Volumes.

Reading through Annex 16, Volume IV you will see that aeroplane operators are administered by their home States. So in principle a German operator would be administered by Germany. There are more details to this, however, as a guiding principle this is true for 90% of all operators. More importantly...

...you should be aware that the national implementation of CORSIA might differ between States. As aeroplane operators are bound to the national laws and therefore to the national implementation of CORSIA, this can result in the unfortunate situation that operators flying on the same route might only be using common but not identical monitoring approaches. For the specific situation in the European Union...

European Operators, so e.g. a German or French operator, will continue using the existing EU ETS MRV system to also monitor, report and verify emissions on CORSIA flights. However, there are some immediate short-term changes to the existing EU ETS MRV system to achieve an initial alignment between CORSIA MRV and EU ETS MRV. We will be looking at these later and will be referring to them as “adjusted EU ETS MRV” rules. As the short-term “adjusted EU ETS MRV” rules are applicable by 01 January 2019 already, they are also relevant for all other Non-European Operators providing flights within the European Economic Area as the EU ETS will continue to exist at least for the 2019 and 2020 period. However, we will be looking at this in more detail later.

For AOs from other States than the European Union, we invite you to contact your national authorities in order to learn more how your administration plans to implement CORSIA. Potential point of contacts could be found in your Ministry of Transport or in the corresponding Civil Aviation Authority. However, in some cases the Ministry for the Environment might be in charge as well.

Title: CORSIA fundamentals (V)

However, for now, please keep on watching even if you are not a German operator as you might be subject to the legal requirements of the EU ETS.

As mentioned, there are some immediate adjustments to the EU ETS MRV to align with CORSIA, so please continue watching even if you are aware of the general requirement to report under the EU ETS. We will be looking at the relevant adjustments later.

Title: Agenda

For now we would like to provide you with some information on the present status of the EU ETS.
Title: EU ETS fundamentals (I)
As you potentially know, the EU ETS in general is the cornerstone of EU's policy to combat climate change and it covers a variety of different sectors.

Aviation joined the EU ETS in 2012 and aircraft operators were asked to surrender allowances against monitored, reported and verified emissions.

For those of you who have just realized that we now have changed from the term aeroplane operators to aircraft operators – this is because CORSIA excludes helicopter flights whereas these flights are covered in the EU ETS.

However and on a more technical level, there is another difference between CORSIA and the EU ETS as CORSIA is obviously an offsetting system whereas the EU ETS is a cap and trade system.

In principle, all aircraft operators performing flights to, from or within the European Economic Area (abbreviated by EEA) are subject to the EU ETS. This also includes Non-European operators.

It is important to mention that several exemptions exist for smaller commercial and non-commercial operators, e.g. commercial operators which emit less than 10,000 tonnes and non-commercial aircraft operators emitting less than 1,000 tonnes of carbon emissions per year (on all flights to, from and within the EEA) are excluded.

In CORSIA we had a straight-forward attribution of aeroplane operators to States as an Italian aircraft operator would be administered by Italy. However, within the EU ETS the Non-European Operators need to be administered by States of the European Economic Area. Therefore, a list of aircraft operators and their competent authorities is available.

Title: EU ETS fundamentals (II)
Originally, the EU ETS not only covered all flights within the European Economic Area but also flights to and from the EEA.

Given the encouraging work on CORSIA, the EU decided to limit the geographic scope to intra-EEA flights until 2023.

However, this also means that all aircraft operators (European and Non-European) will need to continue to monitor, report and verify as well as surrender allowances for all flights within the EEA for at least 2019 and 2020.

In the coming years, the EU has scheduled a review of the EU ETS. Depending on the actual operationalization of the CORSIA provisions worldwide, and depending on the environmental integrity achieved, the EU will decide on the future of the EU ETS for aviation emissions.

Once again, for at least 2019 and 2020 all requirements under the EU ETS continue to be applicable.

This includes European and Non-European aircraft operators.

Title: Agenda (I)
...which in some cases leads to an unfortunate setting and some challenges. This leads us to agenda item 1.3
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Title: Resulting issues of two overlapping schemes
...talking of challenges we would like to provide you with an example that,...

...at least for the baseline period (2019 and 2020), Non-European operators will need to report emissions from international flights within the EEA to two authorities, namely:

▸ To the assigned EU ETS authority within the EEA. With emissions monitored according to the adjusted EU ETS MRV and...
▸ To the national authority according to the nationally implemented MRV provisions for CORSIA according to Annex 16, Volume IV.

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Title: Agenda
...different categories of flights and their corresponding relevance for CORSIA and the EU ETS.

Slide number: 20

Title: Agenda
...an international flight within the European Economic Area is covered by the EU ETS or by CORSIA or both schemes?

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Title: Five categories of flights
We will first have a look under which scheme domestic flights within the European Economic Area are covered.

We differentiate between two categories of aircraft operators. First, EU aircraft operators which are based in the European Union, e.g. a German operator based in Germany. Second, Non-EEA aircraft operators which includes all operators which are not based in the European Economic Area.

Turning to the content of the table, a domestic flight within the EEA would only be covered by the EU ETS (not by CORSIA). Therefore, emissions would need to be reported to the corresponding competent authority under the EU ETS according to the EU ETS MRV provisions. Again, for the purposes of this tutorial we call these provisions “adjusted EU ETS MRV provisions” as the rules for monitoring, reporting and verification were slightly adjusted to align with CORSIA MRV.

Another observation can be made in the table on the left hand side – there is no difference between the requirements for EU aircraft operators and Non-EEA aircraft operators.

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Title: Five categories of flights
As you can...

...see in most Non-EEA States neither EU aircraft operators nor Non-EEA aircraft operators would need to report domestic flights.

However, some precaution is required as more and more States introduce domestic measures for aviation or have already introduced national market based measures, e.g. New Zealand.
Moving on, the situation gets a bit more complicated with international flights between EEA States and Non-EEA States. Obviously, flights are subject to CORSIA. However, depending on the national implementation of CORSIA, there might be differences between EU aircraft operators and Non-EEA aircraft operators.

As described earlier, the European Union has decided to implement CORSIA MRV for aircraft operators based in the EU by continuing with the existing EU ETS MRV system. However, a Non-EEA State might require aeroplane operators to apply the CORSIA MRV provisions as described in Annex 16, Volume IV. Therefore, the last line of the table indicates a potential difference between the applied MRV methods.

International flights between a Non-EEA State and a Non-EEA State are treated equal to flights between EEA States and Non-EEA States.

Let’s first look at EU aircraft operators. The international flight within the EEA will be reported twice, under the EU ETS and under CORSIA. However, it is planned not to have a physical double reporting. The actual flights would be reported for one single time, however, for two purposes which means for EU ETS and for CORSIA. The reported data would be sent to the corresponding competent authority under the EU ETS. Once again, the “adjusted EU ETS MRV” would be used to determine emissions.

Furthermore, emissions for this specific proportion of flights might be slightly different as the operator is required to use EU ETS MRV for the flights included in the EU ETS emissions report and CORSIA MRV for the flights included in the CORSIA emissions report.
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Title: Five categories of flights
As this is an important point during our tutorial, let us repeat...

Given the current legislative framework, Non-EEA operators need to monitor emissions on international EEA flights twice (according to EU ETS MRV and CORSIA MRV) and...

International EEA flights would need to be reported to the Competent Authority within the EU ETS and to the National Authority administering CORSIA.

We are aware that this is an unfortunate additional complexity of two overlapping schemes. But with a further alignment between EU ETS MRV and CORSIA MRV after 2020 the compatibility between measures will increase.

Please also note:

The EU ETS excludes flights between European Member States and outermost regions of European Member States. This is not the case with CORSIA if the flight is an international flight.

For example, a flight between the Spanish island Lanzarote and Madrid remains to be excluded from CORSIA, as this is a national flight within Spain. However, a flight from Berlin to Lanzarote continues to be excluded from the EU ETS but is not excluded from CORSIA, as this is an international flight between Germany and Spain.

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Title: Agenda (II)
We will now proceed with the third part of our tutorial dedicated to Monitoring, Reporting and Verification aspects.

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Title: Details on Monitoring, Reporting, Verification (MRV)
Key questions to be answered in this part of the tutorial are...

How different CORSIA MRV in comparison to an adjusted EU ETS MRV is...

And which parts of the former EU ETS MRV are subject to change to adjust to CORSIA MRV.

...and finally the question whether an operator...

...can now use all five monitoring methods under CORSIA for the EU ETS as well?

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Title: Agenda (II)
...which is agenda item 3.1
Title: Implementation of CORSIA in the European Union for 2019 and 2020

It is important to keep in mind that the European Union is in a very unique situation as a MRV system to monitor CO₂ emissions from aviation was already established in 2010. It is now a delicate task to implement CORSIA without reinventing the wheel as aircraft operators and competent authorities under the EU ETS have invested in proven MRV processes and systems already.

Consequently, a deliberate decision was made in order to reduce implementation costs by not instantly replacing the EU ETS MRV with CORSIA MRV but to work on an alignment exercise to adjust EU ETS MRV to meet the CORSIA requirements. By doing so, several weaknesses of the EU ETS MRV as well as undue complications could be replaced by more practical CORSIA MRV rules as well.

The adjustment is achieved through changes in three different regulations.

A new delegated regulation to implement CORSIA...
...which is covered in agenda item 3.2.

A revised Monitoring and Reporting Regulation...
...which is addressed in agenda item 3.3.

And finally a revised Accreditation and Verification Regulation...
...which we will look at in agenda item 3.4

Title: Agenda (II)

...let’s now look at the details of the delegated regulation. Please be aware that agenda item 3.2 is only relevant for aeroplane operators having its place of judicial registration in the European Union.

Title: Delegated Regulation to implement CORSIA

The Delegated Regulation supplements the ETS-Directive 2003/87/EC regarding MRV-CORSIA measures. In the EU the Delegated Regulation is directly applicable vis-à-vis EU-Member States and aeroplane operators for baseline monitoring in 2019 and 2020. That means that no implementation into national law has to occur.

The act forms the basis for establishing MRV-obligations for international routes covered under CORSIA for EU-Member States and their aeroplane operators.

Currently the Delegated Regulation implementing CORSIA MRV-obligations in Europe is still under legal scrutiny. The public consultation phase ceased on 28 December 2018. Please be aware that the information in this tutorial is not final. Please refer to our website for relevant updates on the Delegated Regulation.

Aeroplane operators have to report their emissions on all routes covered by CORSIA according to the adjusted EU ETS MRV rules of the Monitoring and Reporting Regulation and the Accreditation and Verification Regulation. The European aeroplane operators have to report to their respective EU-Member State.

Therefore, aeroplane operators have to supplement their existing EU ETS Monitoring Plan, applying monitoring rules and thresholds as well as all dates (e.g. for the yearly submission of emissions report) from the adjusted EU ETS MRV rules.

Once again, please keep in mind that the information on the Delegated Regulation is preliminary. Please check our website.
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Title: Agenda (II)
...agenda item 3.2.1 Applicability and scope

Slide number: 34

Title: Applicability and scope (I)
To whom applies the Delegated Regulation?

The Delegated Regulation applies to the following European Aeroplane Operators from 1 January 2019 onwards:

Aeroplane Operators with an AOC issued by an European Member State or having its place of judicial registration in an European Member State and

Producing annual CO₂ emissions greater than 10,000 tonnes from the use of aeroplanes with a maximum certificated take-off mass greater than 5,700 kilograms conducting flights on routes covered by CORSIA

As explained earlier, please keep in mind that CORSIA and therefore the Delegated Regulation does not cover helicopters. This is the reason why we refer to aeroplane operators and not to aircraft operators within the scope of the Delegated Regulation.

Scope is also the relevant key word for the next bullet points – what is the scope of the Delegated Regulation?

Basically, all international flights (this includes international flights within the European Economic Area as well)

Please note again, there is a reporting requirement under the Delegated regulation for

» International flights between an EEA-State and an airport located in outermost regions of another EEA-State (e.g. Berlin-Lanzarote).

» And international flights between an EEA-State and an airport in dependencies or territories of another EEA-State (e.g. Ireland-Greenland).

You will find a full list of overseas countries and territories of States of the European Economic Area under the provided Link (which is response no 5 in the list of frequently asked questions).

How can this be translated into practical examples?
Title: Applicability and scope (II)

On the top left hand side you see several thresholds which lead to an exception from either the EU ETS or the Delegated Regulation (...so basically from CORSIA). On the bottom left hand side the consequences of exceeding some of these thresholds are described.

Let us start with the first example. A large civil European Operator which has emissions for the initial EU ETS scope of more than 10,000 tonnes of CO₂ per year and more than 243 flights within three subsequent four-month periods.

...by the way and just to clarify what is being meant by “initial EU ETS scope”: even if the EU ETS currently works as a reduced scope system, the exceptions are still defined by using the original scope which would include a flight from Berlin to Montreal.

So moving on to the threshold of less than 1,000 tonnes...this is not applicable as the operator is a commercial operator.

Looking now at the reporting and surrendering consequences, the operator would need to meet the obligations of the EU ETS (which means reporting verified flights within the European Economic Area and surrendering allowances). In addition, all international flights not already reported under the EU ETS would need to be reported under the Delegated Regulation which implements CORSIA for European Operators.

Moving on to the second example – an European operator which doesn’t qualify to be exempted under the EU ETS, however, emissions under the CORSIA are below 10,000 tonnes per year. This could be for instance the case for an aeroplane operator which performs the majority of flights domestically. Consequently, there are only obligations under the EU ETS, not under CORSIA.

The third example basically represents operators where the majority of flights leave the European Economic Area. So the operator is below one of the thresholds for the EU ETS and is therefore exempted. However, by exceeding the threshold of 10,000 tonnes of CO₂ emissions per year on international flights according to the Delegated Regulation, the operator would need to submit an initial monitoring plan and report verified emissions on all CORSIA flights.

Our last example is now pretty simple – basically the operator is below all thresholds. Therefore no obligations apply, neither under the EU ETS nor under CORSIA.

With that we turn to non-commercial operators...
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Title: Applicability and scope (III)

Looking at our first example, you will see that the first two thresholds under the EU ETS are not applicable for non-commercial operators. So we only need to concentrate on two questions then – first less than 1,000 tonnes of CO₂ per year under the EU ETS, second whether there are more than 10,000 tonnes of CO₂ emissions on all international CORSIA flights.

Our first example is straightforward as the operator exceeds both thresholds. Consequently, we have obligations under the EU ETS and under the Delegated Regulation.

Second example represents an operator which has just a few flights within the initial EU ETS full scope. These flights are so few that they are below the “1,000 tonnes of CO₂ per year” threshold. However, the majority of flight activities takes place between States outside the European Economic Area. Therefore, the operator has more than 10,000 tonnes of CO₂ per year under the Delegated Regulation. Consequently, the operator is asked to submit an initial monitoring plan and report emissions on all international flights.

Third example is representative for an operator with the majority of flights within the European Economic Area by not exceeding the 10,000 tonnes of CO₂ per year threshold of the Delegated Regulation. Consequently, no obligations under CORSIA.

The last example is again very simple. No threshold is exceeded. Therefore, no obligations.

We now have a rough overview who is asked to report emissions. However, the question to whom these emissions need to be reported has not yet been answered.

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Title: Applicability and scope (II)

...next agenda item 3.2.2 Application of the list of administering States

Slide number: 38

Title: Continued application of the list of administering member States

It is important to mention that the list of administering member States remains valid for the emissions being reported under the Delegated regulation as well.

So the first question to ask is whether you can find the name of your operator in the list of administering Member States. You find a link to this list on our DEHSt website.

In the case of answering the question with “yes” and confirming that you are assigned to Germany (or another EU Member State), you are administered by Germany (or the respective EU Member State). In the case of “no”...

...but being a...

Civil aeroplane operator with a valid air operator certificate from Germany or/and

Place of judicial registration in Germany or/and

Germany being the notifying State of the ICAO designator of your operator...

you are being administered by Germany.
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Title: Agenda (II)
Let’s now look at the details closer to the topic of Monitoring and Reporting and the actual changes in the revised EU ETS Monitoring and Reporting Regulation (MRR).

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Title: Revision of the EU ETS Monitoring and Reporting Regulation (MRR)
The Monitoring and Reporting Regulation contains provisions for stationary installations and aviation. For the 4th trading period of the EU ETS the European Commission planned to revise the Monitoring and Reporting Regulation within two different revision projects.

The first revision project, called RegRev I, begun in early 2017 and was finalized in summer 2018. Together with amendments in the stationary sector the first alignment of monitoring and reporting provisions between EU ETS and CORSIA took place.

The beginning of the second revision project, called RegRev II, is planned from the beginning of 2019 onwards and is to be finalized in the first part of 2020, before the 4th trading of the EU ETS period will start in 2021. Within this project it is planned to revise provisions in the stationary sector and to accomplish further alignments of monitoring and reporting provisions between EU ETS and CORSIA.

As a result, first amendments of the RegRev I have been adopted at the end of 2018. Those amendments mostly include new provisions in the aviation sector.

Remained results of RegRev I will be applied together with the results of RegRev II by final adoption of the new Monitoring and Reporting Regulation, presumably in March 2020.

Until then, only new provisions in the aviation sector from RegRev I shall be applied from 2019 onwards. The rest of the provisions shall be applied under the Monitoring and Reporting Regulation 601/2012 continuously until 31 December 2020.

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Title: Agenda (II)
And now, let’s have a glance how different CORSIA MRV is in comparison to EU ETS MRV.
Title: Similarities and Differences in CORSIA MRV

In principle, CORSIA MRV is very similar to EU ETS MRV.

The following similarities reveal themselves between the two MRV systems:

- As in the EU ETS the operator in CORSIA is the accountable entity, which carries the responsibility to be compliant with the provisions.
- As well, under both systems, the aircraft operator is attributed to a particular State.
- Both systems cover only CO₂ emissions.
- The MRV approach is as well comparable. So, for example, it is a flight by flight monitoring approach for both systems, with the requirements of annual reporting and annual verification processes based on an approved monitoring plan. Therefore, requirements regarding contents of monitoring plan and emissions report are identical. Both systems offer two identical monitoring methods, Method A and Method B, and offer a similar approach to close data gaps.

Concerning the surrendering requirements, under EU ETS the surrendering obligation remains unchanged at least until 2020. The offsetting requirements under CORSIA are applicable for the first time in the year 2021.

Despite that both MRV provisions are very similar, there are still some differences between the two systems:

First, the three differences, namely:

- Applied density value for the calculation of emissions
- Uncertainty requirements and
- Threshold for data gaps...

...have already been removed under the aforementioned RegRev I project and the new requirements are going to be presented to you in the following slides.

Other differences, such as:

- Five eligible monitoring methods under CORSIA and only two eligible monitoring methods under EU ETS
- Value of standard emission factor
- Monitoring and reporting of biofuels under EU ETS and sustainable and low carbon aviation fuels under CORSIA
- Different thresholds for small emitters
- Improvement reports under EU ETS

are planned to be aligned within aforementioned revision project RegRev II.

Title: Agenda

Now, we are coming to the detailed requirements which have been adjusted in the revised Monitoring and Reporting Regulation and which shall be applied from 2019 onwards.
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Title: Uncertainty
The first requirement concerns the uncertainty assessment with regard to measuring devices.

As part of the monitoring and reporting requirements the aircraft operator under the former Monitoring and Reporting Regulation was obliged to conduct an uncertainty assessment, including uncertainty assessment of measuring devices. In other words, the operator was required to ensure that the uncertainty threshold of the relevant tier was met.

Such provisions are not laid down under Volume IV.

As a result, the requirement for an uncertainty assessment with regard to measuring devices has been removed and is not part of the new Monitoring and Reporting Regulation anymore.

In the MRR RegRev I revision project it has been recognized that even small aircraft operators meet the highest tier by default and that the uncertainty level cannot be influenced by any means, because there is no option to change measuring devices.

However, the uncertainty requirements concerning the control activities, procedures for control activities as well as when selecting the monitoring methodology still have to be fulfilled by the operator.

Slide number: 45

Title: Agenda (II)
Now we move on to the second requirement concerning data gaps...

Slide number: 46

Title: Data Gaps
Under the former monitoring and reporting regulation there was no requirement for a data gap threshold. At the same time, the aircraft operator needed to report the emissions of flights where data gaps occurred separately.

The CORSIA Standards and Recommended Practices introduced a threshold for data gaps of 5% of international flights as well as for flights with an offsetting obligation. Where the data gaps exceed the threshold of 5%, remedial engagement with the State shall take place.

At the same time, the aeroplane operator shall provide the percentage of international flights that had data gaps in the emissions report, including an explanation for the State.

Within the MRR revision project it has been recognized that the additional requirement of data gaps threshold is a valuable improvement for the provisions under the monitoring and reporting regulation. Therefore, under the new Monitoring and Reporting Regulation a similar provision has been laid down.

That means:
- The data gap threshold shall not exceed 5% of all flights
- If the data gap threshold is exceeded, the aircraft operator has to inform the competent authority of the reasons of data gaps, and
- Has to document the taken remedial actions aimed at improving the monitoring methodology

In contrast to Volume IV, the data gap threshold does not need to be exceeded for the need to fulfill the requirement to state the percentage of data gaps and to list the estimated emissions separately.
Slide number: 47
Title: Agenda (II)
We move on to density...

Slide number: 48
Title: Density (I)
Fuel uplift is measured in liters. In order to calculate the fuel consumption of a flight according to Method A or Method B, it is necessary to use a density value which allows to convert a fuel volume information (in liters) to a fuel mass information (in kilograms).

The former MRR requirements require the aircraft operator to convert the uplift amount from volume to mass by using an actual density factor measured at the time of fuel uplift. If this value is not available, a standard density factor of 0.8 kilograms per litre shall be applied to convert the volume information to a mass value.

Looking at the CORSIA provisions...
...the value being used to convert volume to mass has to be the value which is being used for operational and safety reasons. So there should be no difference between the density values used to e.g. “calculate the mass of the aircraft prior to take-off or the fuel onboard” and “the density value which is being used to determine fuel mass for CORSIA”.

The EU has revised the MRR requirements...
...to include these CORSIA density provisions in the EU ETS MRV...
...as the former rules proved to be impractical.

We will now provide you with some examples to ensure an equal application of this provision amongst aircraft operators.
Slide number: 49

Title: Density (II)

In most cases the use of density values would be internally regulated in the operations manual of the aircraft operator.

Procedures found there can be very different...

For example, the mass of fuel is determined by the standard density for all flights. There are no exceptional cases....or...

The actual density has to be used to calculate the fuel onboard (and eventually the mass of the aircraft). If the actual value is not available, a standard density value of 0.79 kilograms per litre is used. This provision is typical for aeroplane operators with the majority of fuel uplifts in hot regions.

Another example is to define the standard density of 0.8 kilograms per litre for all flights. However, for specific operations pilots are required to use actual density values.

However, for a very limited number of aircraft operators, there might be no provisions included in the operations manual.

We now have a short glance at the resulting density values being used to perform the calculations for Method A and Method B according to EU ETS MRV...

The first example is very straight forward as 0.8 would be used for all flights

The second example is a bit more challenging. You might recall that only actual density or standard density of 0.8 kilograms per liter are acceptable values under the revised EU ETS MRV provisions. Consequently, the operator has to use on every flight with no actual density, the EU ETS MRV standard density of 0.8.

Moving on to the next example. In this case only for flights which are weight critical actual density is being used. The same has to happen within EU ETS MRV. For every flight where an actual density value was used to convert volume to mass, the same density value has to be used for EU ETS MRV as well.

Looking at the last example – in this case we would recommend you to contact us. We will then discuss and find an appropriate solution.

We have a last recommendation when it comes to this rather difficult topic of density. Your operations manual is an important part to provide safe and reliable air transport. We recommend you to not change any existing density approaches in your operations manual to comply with EU ETS MRV. If there are specific circumstances, please let us know and we will look into this together.

Slide number: 50

Title: Agenda (II)

We will now sum up by briefly describing what has not been included in the adjusted EU ETS MRV despite the fact that it is part of CORSIA MRV...
Slide number: 51

Title: Some additional remarks
It is important to keep in mind that the revised set of EU ETS MRV rules are just a first step towards a closer alignment of EU ETS MRV and CORSIA MRV. Consequently, EU ETS MRV is currently missing some relevant CORSIA MRV provisions, such as

- The full set of fuel use monitoring methods available under CORSIA
- Specific provisions to standardize data exchange between operators in case of short term leasing arrangements
- Exchange of data provisions between States...
- ...but also an improved set of knowledge and competency requirements for verification bodies
- For the specific topic of fuel use monitoring methods, please keep in mind...

...that for the reporting years 2019 and 2020, the CORSIA fuel use monitoring methods Block-off/Block-on, Fuel Uplift and Fuel Allocation With Block Hour cannot be used in the EU ETS MRV

Slide number: 52

Title: Agenda (II)

...at changes in the Accreditation and Verification Regulation.

Slide number: 53

Title: Revision of the EU ETS Accreditation and Verification Regulation (AVR)
At the end of 2018 the Accreditation and Verification Regulation 600/2012 has been amended to the new Accreditation and Verification Regulation. The new regulation applies from January 1st 2019.

According to the Delegated Regulation implementing CORSIA in the EU, the amendments and provisions of the Accreditation and Verification Regulation apply to the EU ETS and CORSIA verification processes likewise. Amongst others, the following main amendments have been adopted under the new regulation:

- A new rule for the lead verifier has been introduced: After 6 consecutive years of verification, the lead verifier shall take a three consecutive year break from providing verification services to that same aircraft operator.

This rule comes into force from 2019 onwards, so verification activities before 2019 do not count towards this 6 years.

As the uncertainty assessment requirements have been deleted under the Monitoring and Reporting Regulation, the requirement towards the verifier to check the aircraft operator compliance with the uncertainty assessment is removed.

Slide number: 54

Title: Agenda (III)
This now leads us to the core question – how do all these changes impact operators and what are you asked to do?
Slide number: 55

Title: Requirement to submit an updated EU ETS monitoring plan
Key question here is whether operators are required to submit an updated monitoring plan and which process DEHSt has established to make the update as simple as possible.

Slide number: 56

Title: Agenda (III)
We start with some legal background and important information on what has to be done until when.

Slide number: 57

Title: 4.1 Legal background and timelines
The legal background for updating monitoring plans can be found in the monitoring regulation. Article 14 paragraph 2 (e) authorizes competent authorities to require the operator to modify the monitoring plan if it is not in conformity with the requirements of the MRR.

Due to the changes during the revision of the MRR, already existing and approved monitoring plans fall within this category and need to be supplemented with additional information.

A template supplementing your existing monitoring plan can be found on our website and should be submitted to DEHSt until 31 March 2019.

Approvals will be backdated to be applicable from 01 January 2019.

Slide number: 58

Title: Agenda (III)
Let's now have a closer look at the monitoring plan template...

Slide number: 59

Title: 4.2 Introduction to the monitoring plan template (I)
The monitoring plan is split into two different documents

First, the DEHSt Forms management system, which is well known and has been used in the past for the already approved monitoring plans.

The FMS form describes the methods and processes of monitoring emissions as well as general provisions about the monitoring. Please note: Due to time restrictions the FMS template has not been updated with regard to CORSIA related MRV provisions.

Therefore DEHSt provides a PDF form which contains additional prompts to cover the amended Monitoring regulation.
**Slide number: 60**

**Title: 4.2 Introduction to the monitoring plan template (II)**

The PDF form for the additional information is split into two parts.

The first part is relevant for all aircraft operators administered by Germany for the purposes of the EU ETS. It includes prompts on the identification of the operator, information regarding the updated density provisions and on the treatment of data gaps.

The second part is only relevant for aeroplane operators with an obligation to report under the Delegated Regulation for the implementation of CORSIA in the European Union. This form requires additional information on methods and procedures for monitoring of certain flights.

**Slide number: 61**

**Title: Introduction to the monitoring plan template (III)**

The following decision tree shows which forms are to be submitted to DEHSt, depending on the monitoring plans that already exist.

Starting point for the process is an already existing approved monitoring plan.

If you have a monitoring plan that has already been approved, please assess if this monitoring plan is still up to date and in line with your actual processes.

If this is the case, only the additional PDF form has to be filled in and submitted for approval.

If there are updates to the approved monitoring plan necessary, please amend the FMS-form of the approved monitoring plan and submit the FMS form as well as the PDF form for approval.

In case you do not have an already approved monitoring plan, please draft a FMS form and the additional PDF form and submit both for approval. Please note, that the FMS form has not been updated to the amended Monitoring Regulation. Therefore some prompts regarding density and uncertainty are no longer valid.

**Slide number: 62**

**Title: Agenda (III)**

Next agenda item concentrates on the question how to send the template to DEHSt.

**Slide number: 63**

**Title: 4.3 Submissions to DEHSt**

DEHSt makes comprehensive use of digital communication. For secure communication, DEHSt has established what is known as Virtual Post Office (VPS). All parties involved in the current process can carry out secure and legally binding digital communication. Therefore, the updated monitoring plan as PDF Form and, if applicable also the updated FMS form have to be submitted by using the DEHSt VPSMail Client.

This system is very well known to aircraft operators as it has already been used in the past for applications for free allocation, monitoring plans and emissions reports.

**Slide number: 64**

**Title: Agenda (III)**

We are now approaching the end of our tutorial and hope to have provided you with a sufficient level of information to complete the template and to amend your existing monitoring plan. However, as we concentrated...
There are two options available.

Option 1 refers directly to this tutorial. Aeroplane operators are invited to send questions until 15 February 2019 which aim at clarifying the provided content of this tutorial. DEHSt will anonymize these questions, answer and publish them. The idea is to make maximum use of the raised questions by allowing public access to the questions and answers. If you want to use option 1, please send us an email to tutorial@uba.de. Answers and questions will be published by DEHSt on the same website as this tutorial. Again, this channel of communication is available until 15 February only.

The second option has no time limitations at all and basically invites aeroplane operators to use the same mode of communication as over the last couple of years by contacting our customer service. This is especially recommended if your question is not directly referring to the content of the tutorial or includes business sensitive information. You may contact our customer service by using the contact form.

Please let us share a final remark when it comes to questions. DEHSt is the regulatory body for the administration of EU ETS and CORSIA in Germany. We are not in charge when it comes to the design of provisions or political aspects related to EU ETS and CORSIA. Kindly keep this in mind when drafting your questions. However, we are very eager to support you in your implementation of the revised EU ETS MRV rules and CORSIA obligations.

Title: Thanks
...we would like to thank you for your attention. Goodbye.