EUROPEAN COMMISSION
DIRECTORATE-GENERAL
CLIMATE ACTION
Directorate B – Carbon Markets & Clean Mobility
CLIMA.B.2 – ETS (II): Implementation, Policy Support & ETS Registry

EU ETS Compliance Forum Training event

Training Event on new developments in the EU ETS from 2024

Compliance Forum Training Event of 17 October 2023

This document comprises training material for competent authorities, national accreditation bodies and verifiers related to Monitoring and Reporting of greenhouse gas emissions under the EU Emission Trading System (EU ETS)

Table of contents

1. LEGAL BACKGROUND

The legal basis for the Monitoring, Reporting and Verification (MRV) system is set in Directive 2003/87/EC. It was revised in 2023 by Directive (EU) 2023/958 on aviation and Directive (EU) 2023/959 for isntallations, maritime transport and the “ETS2” for buildings, road transport and additional sectors. This will have an impact on several Regulations, including Implementing Regulation (EU) 2018/2066 (Monitoring and Reporting Regulation, MRR) and Implementing Regulation (EU) 2018/2067 (Accreditation and Verification Regulation, AVR). The first revision of the MRR (Commission Implementing Regulation (EU) 2023/2122) includes MRV rules for municipal waste incineration installations, MRV in the “ETS2” (EU ETS for buidings, road transport and other sectors), some changes for aircraft operators and some further improvement of existing requirements. Furthermore, shipping companies performing maritime transport activities will be included in the EU ETS from 2024.

2. OBJECTIVE

The M&R training event of 17 October 2023 aimed at informing competent authorities (CAs), National Accreditation Bodies (NABs) and verifiers on new and upcoming legislative developments and new areas that will affect their work:

- Providing an overwiev of legislative developments and plans for guidance;
- Providing an overview of MRV for municipal waste incinerations and ETS2;
- Providing information on plans for the EU ETS Reporting Tool (ERT MRV);
- Providing an overview of new developments in aviation and maritime transport.

Target audience: Representatives from CAs, NABs and verifiers

3. SET-UP OF THE TRAINING EVENT

#	Time	Agenda point and details
1.	10:00 – 10:15	**Opening, welcome and introduction (DG CLIMA)**
2.	10:15 – 10:45	**Overview of new legislative developments** ● Revisions in the legal framework of the EU ETS ● Impact of revisions on MRVA practice and stakeholders ● Impact on guidance and templates ● Q&A
3.	10:45 – 11:15	**Municipal Waste Incineration installations (MWI)** ● Identification of installations and monitoring boundaries ● Monitoring and reporting of emissions ● How to deal with specific issues on sampling and analysis ● Monitoring Plan ● Verification ● Q&A
4.	11:15 – 11:30	*Coffee break*
5.	11:30 – 12:15	**Selected MS experiences in planning MRV for MWI installations** ● Identification of MWI, MP procedures ● Q&A
6.	12:15 – 13:30	*Lunch break*
7.	13:30 – 14:15	**MRV under ETS** ● Overview of ETS 2 ● Regulated entities and responsibilities ● Interaction with other stakeholders (CAs and verifiers) ● Monitoring and reporting aspects ● Avoiding double counting ● Impact on verification ● Q & A
8.	14:15 – 15:00	**ETS Reporting Tool**
9.	15:00 – 15:10	*Coffee break*
10.	15:10 – 15:45	**Other developments: EU ETS aviation and EU ETS maritime**
11.	15:45 – 16:00	**Wrap-up and close of the meeting (DG CLIMA)**

Annex: Presentations

EU ETS MRVA – CF Training event

Training Event on EU ETS Phase 4 developments

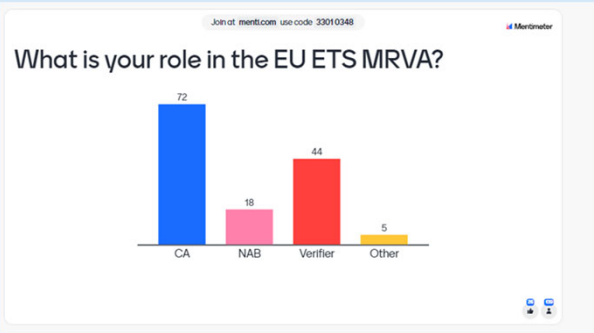
17 October 2023

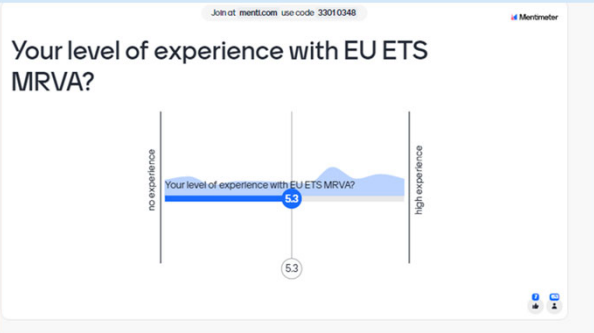
Set-up of the training

- **Objective** is to inform CA, NAB and verifiers on new legislative developments and new areas that will affect their work
  - Overview of legislative developments and plans for guidance
  - MRV for municipal waste incinerations
  - MRV in ETS2
  - Plans for ETS reporting tool
  - New developments in aviation and maritime
- **Target audience**:
  - Representatives from CAs, NABs and verifiers
- **Slides for training**
  - Slides will be shared with you after the training

2

Mentimeter





3

European Commission

Overview of new legislative developments

4

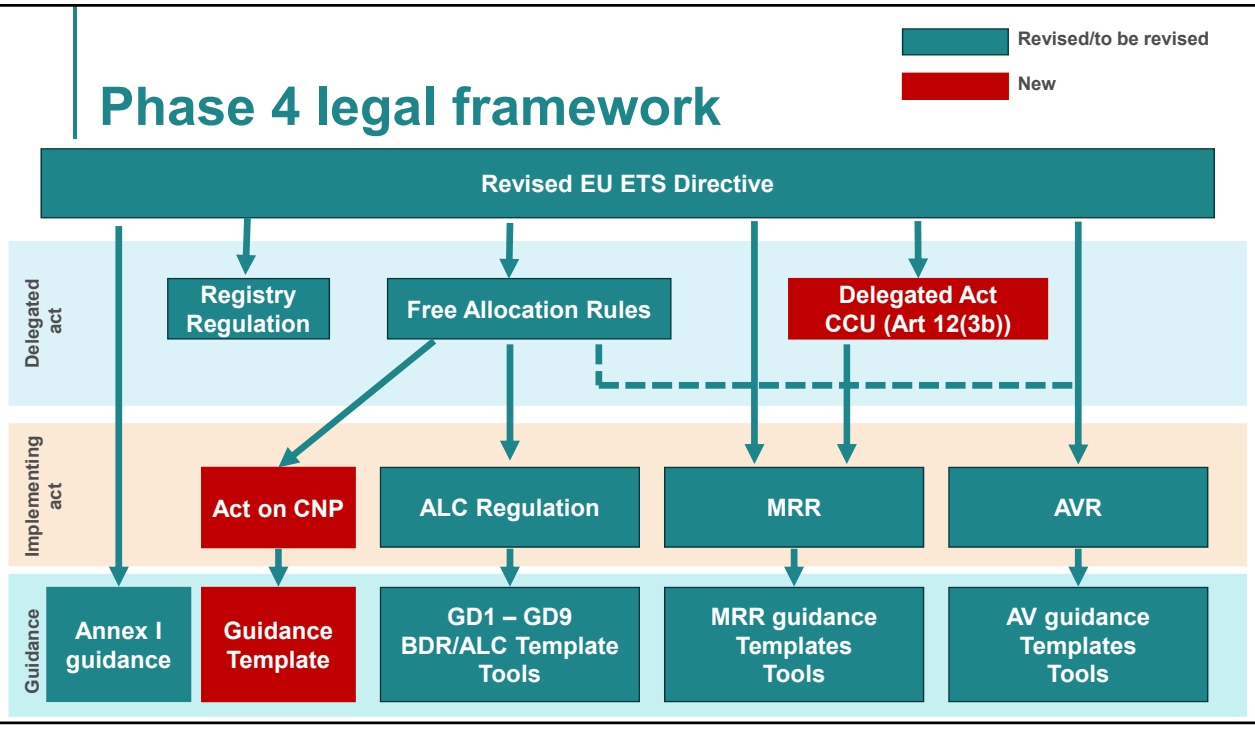
European Commission

Agenda

- Revisions in the legal framework of the EU ETS
- Impact of revisions on MRVA practice and stakeholders
- Impact on guidance and templates
- Planning and next steps

European Commission

Phase 4 legal framework



Key revisions in FAR impacting MRVA

Free allowances are reduced by 20% if conditions are not met (Art 10a ETS Directive)

Installations subject to energy audit or certified management systems must implement energy efficiency recommendations, unless exceptions apply

- Operator provides evidence that implementation of recommendations is completed or exceptions apply
- In BDR/ALC verification the verifier checks completion of implemented measures or application of exceptions
- CA considers information to decide whether conditions are met

Expected AVR revisions:
Rules on checks to be carried out and what to report

20% of installations with highest GHG energy intensities under each product BM must submit a CNP by 31 May 2024 (milestones and targets towards climate neutrality)

- Once the Climate Neutrality Plan (CNP) is submitted, the CA checks the CNP for compliance with the CNP Implementing Act
- Verifier verifies achievement of milestones and targets every five years (first verification is due by 31 March 2026)

Expected AVR revisions:
New chapter with specific verification rules

Key revisions related to MRR (1st Batch)

- **Status: agreed by the Climate Change Committee, awaiting publication**
- **MRV for municipal waste incineration installations** — More details in next presentation
- **MRV in ETS2** — More details after lunch break
- **Improvement of existing requirements in the MRR**
  - Intervals for submitting improvement reports are extended by a year
  - The reference prices in Article 18 MRR (unreasonable costs) are increased to be more in line with the current allowance prices:
    - in Article 18(1) from 20 to 80 €
    - In Article 18(4) from 500 to 1000 € for installations with low emissions and from 2000 to 4000 € for others)

8

European Commission

Key revisions related to MRR (1st batch)

- Changes have been made in Annex IV MRR to clarify rules, e.g. section 11 Annex IV MRR (glass) to clarify monitoring of the emissions factor of non-carbonate process emissions
- Articles 39 and 48 MRR are adapted to avoid the risk of underestimating the biomass fraction of the outgoing source streams in a mass balance
- A paragraph is added to Article 43 to avoid double counting of CEMS monitoring with biogas from the grid
- Several amendments were made on aviation, e.g.:
  - ✓ removal of requirements relating to tonne-km data,
  - ✓ alignment with CORSIA on the standard emission factor for Jet A fuel,
  - ✓ specific rules on biofuels and eligible aviation fuels

More details in afternoon session

9

European Commission

Key revisions related to AVR (1st batch)

First batch (Status: concept note sent to TWG)

- The verifier's role in checking implementation of energy efficiency recommendations
- ETS2 specific rules on verification
- Simplification of one of the criteria for waiving site visits
- Possible extension of virtual site visits for aviation
- Clarification of the verifier's role in checking biomass requirements (for installations and aviation)
- Alignment of Annex I on accreditation scope with changes in ETS Directive
- Further minor clarifications

10

European Commission

Key revisions related to MRVA (2nd Batch)

- **Status of MRR: concept note sent to TWG**
- **MRV revisions as a result of changes in Annex I of the EU ETS Directive**
  - EU ETS will cover transport of CO_2 for permanent geological storage (CCS) through all transport modes (not only pipelines)
    - ✓ Rules have to be developed on the monitoring and reporting of transported CO_2 (e.g. addressing leakages, cross border transport, CO_2 containing biogenic content)
    - ✓ These rules will also impact verification: i.e. impact on planning, time allocation, checks to be carried out, verification reporting
- **MRV in relation to RFNBO/RCF***
  - Art 14 Directive allows the Commission to develop rules for determining emissions from RFNBO's/RCF's: e.g. how to avoid double counting, how to account for carbon released
    - ✓ Alignment will be made with Article 38(5) MRR: compliance with sustainability and greenhouse gas savings criteria laid down in REDII

European Commission

* RFNBO: Renewable Fuels of Non-Biological Origin; RCF = Recycled Carbon Fuels (as defined by the RED II

Key revisions related to MRVA (2nd batch)

- **MRV in relation to CCS and CCU – Article 12(3b) of the EU ETS Directive**
  - Allows operators to subtract CO_2 if it is permanently chemically bound in a product so that it does not enter the atmosphere under normal use, including any normal activity taking place after the end of life of the product.
    - ✓ Act will be drafted to define criteria for determining the products covered by the Article
    - ✓ An assessment will be made whether Article 49 MRR and Annexes are affected
    - ✓ The role of the verifier must be clarified in AVR (e.g. the verifier checks the correct application of Article 12(3b) Directive as approved in the MP)
- **Aviation**
  - CORSIA alignment on cancellation reports and MRV of non-CO_2 effects, etc.

More details in afternoon session

2nd batch of AVR revisions will concern

- **Verification of achievement of climate neutrality milestones and targets**
- **Impact of 2nd batch MRR revisions on AVR and further improvement (e.g. alignment with CORSIA)**

New guidance & templates on MRVA

New guidance (preliminary planning)

- MRR guidance on ETS2
- AV guidance on ETS2
- New guidance on what should be included in CNP
- New guidance on interpretation of Article 12(3b) Directive: CCU and Transport of CO_2
- Guidance on application of conditionality requirements to allocation

New templates

- ETS 2 templates (MP, AER, IR, VR)
- Template for the CNP

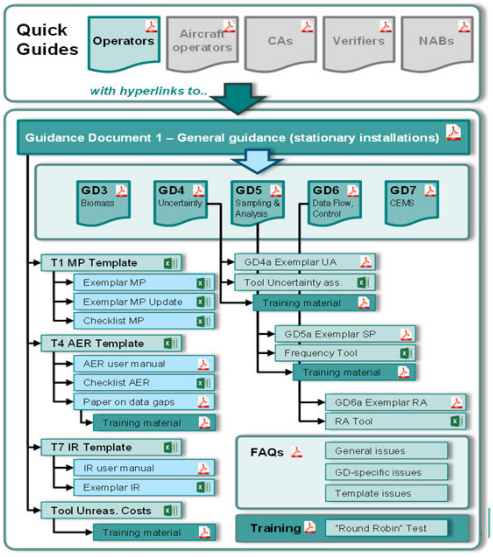
13

European Commission

Update of existing MRR guidance

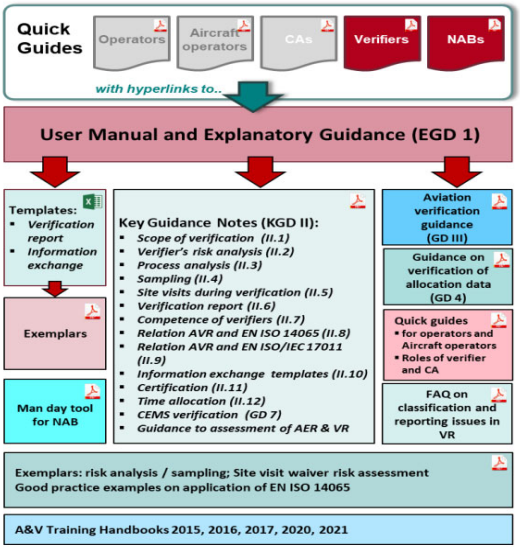
- Update of guidance to new rules: e.g.
  - ✓ How to deal with MWI specific issues
  - ✓ New rules on biomass
  - ✓ Explanation of Transport of CO_2
  - ✓ Minor issues such as IR intervals, references
- Update of templates to new rules
  - ✓ MP templates (minor changes) and major updates later (e.g. transport of CO_2)
  - ✓ AER template for installations / aircraft operators
  - ✓ IR templates (minor issues in guidance)
- Update of tools and new trainings to inform stakeholders (like today)

14



Update of existing AV guidance

- Update of guidance to new rules: e.g.
  - ✓ How to deal with MWI specific issues (e.g. monitoring boundaries)
  - ✓ Role of verifier in assessing CCS/CCU rules
  - ✓ GD III on aviation regarding new rules (e.g. CORSIA)
- Update of templates to new rules
  - ✓ BDR and ALC VR template (checking conditionality)
  - ✓ VR template in relation to AER verification
  - ✓ Information exchange templates to allow reporting on new issues
- Update tools and new trainings to inform stakeholders



Planning and next steps

1st batch of MRR revisions	Adopted in October 2023 Entry into force 1 January 2024
2nd batch of MRR revisions	2nd batch is being drafted Adoption planned in 1st half of 2024
1st batch of AVR revisions	Adoption planned by February 2024 Entry into force March 2024
2nd batch of AVR revisions	Planned after March 2024

Guidance:

- December: CNP guidance
- January: ETS 2 MRR guidance
- January/February: allocation guidance
- 2nd half 2024: ETS2 AV guidance
- Further update of existing MRVA guidance starting in 2024

European Commission

MRV of municipal waste incineration installations

European Commission

General aspects

- Annex I of EU ETS Directive: Inclusion of Installations for Municipal Waste Incineration (MWI) >20MW_{th} for **MRV only as of 2024**
- MRR: 'municipal waste' means municipal waste as defined in Article 3, point (2b), of Directive 2008/98/EC [Waste Framework Directive]
- MRR Art. 68(4)(c): "**Member States shall submit the verified annual emissions report** of each installation for the incineration of municipal waste as referred to in Annex I to Directive 2003/87/EC to the Commission by 30 April of each year…."
- EU ETS Directive Art. 30(7): **Revision clause for July 2026**
  → COM to assess the feasibility to include MWI from 2028 onwards

European Commission

Identification of MWI installations

- Guidance on scope of the EU ETS Directive (Annex I) is currently still under development. In this training, **only preliminary information can be given**.
- Distinction already since 2013:
  - **Co-Incineration** of wastes: "… whose main purpose is the generation of energy or production of material products…" → Already fully included in the EU ETS
  - **Incineration** of wastes: Here the main purpose is the thermal treatment of wastes → Additional distinction needed:
    - Installations / units for the incineration of municipal wastes → to be included in the EU ETS for MRV if >20 MW_{th}
    - Units for the incineration of hazardous or municipal wastes → remain excluded under Clause 5 of Annex I
    - Units for incineration of other wastes than hazardous or municipal → were already included in EU ETS before

19

European Commission

Identification of MWI installations (2)

- How to identify MWI installations (distinguish from other waste incineration)?
- **Draft guidance** proposes this approach:
  - Check IED* permit – waste incineration mentioned?
  - Check installation design (and IED permit) – Combustion temperature > 1100°C? If yes, installation for the incineration of hazardous waste → keep excluded from EU ETS
  - Check annually consumed wastes (using Types of the European Waste List)
    - If only non-municipal, non-hazardous wastes used → not MWI, full inclusion in EU ETS
    - If household wastes that are at the same time hazardous → consider them hazardous
    - If predominantly hazardous waste used → outside the EU ETS
    - If predominantly municipal wastes → include in EU ETS for MRV only

20

*IED…Industrial Emissions Directive (formerly IPPC-Directive): Directive 2010/75/EU

European Commission

Aggregation clause

- Combustion of fuels >20MW_{th} and "combustion in MWI installations >20 MW_{th}" are the **same activity** → Some complications with the "aggregation clause"
- **Draft guidance proposes** to distinguish these cases:
  - Normal combustion >20 MW_{th} and MWI <20 MW_{th}: Only normal combustion in EU ETS
  - Normal combustion >20 MW_{th} and MWI >20 MW_{th}: The normal combustion part is fully in the EU ETS, the MWI part is in the EU ETS for MRV only
  - Normal combustion <20 MW_{th} and MWI >20 MW_{th}: Installation with all combustion is in the EU ETS for MRV only
  - Normal combustion <20 MW_{th} and MWI <20 MW_{th}, but total rated thermal input >20MW_{th}: Installation with all combustion is in the EU ETS for MRV only

MP and GHG permit

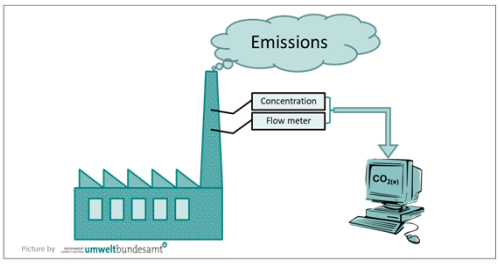
- The MWI installation or units included for MRV have to be **covered by a monitoring plan**
- Member State **may issue a GHG permit** for MWI installations. However, this is not a strict requirement.
- Special case: **installation already included in the EU ETS** and there are units for the incineration of municipal waste which jointly exceed 20 MW_{th}
  - There is some **flexibility** whether to treat the MWI and the rest of the installation as two separate installations, i.e. with separate monitoring plans. In any event, MP must clearly distinguish the MRV only part from the rest of the installation. There can be two separate MPs.
  - The two parts must provide separate verified annual emission reports

Development of MWI rules in MRR

- MRR rules derived from:
  - Fact that most MWIs already apply CEMS for other air pollutants (IED purposes)
  - Experience from SE and DK having opted-in MWI previously
  - Fact that other types of (industrial) wastes already covered by EU ETS (cement, steel, etc.)
  - Feedback received from TWG members on concept note and draft MRR updates
- **Main conclusion**: the existing tier-based system in the MRR with the flexibilities for derogation (e.g. unreasonable costs) already provide sufficiently robust yet cost-efficient framework for monitoring

European Commission

Monitoring approaches: measurement based

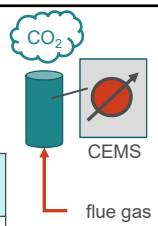


Continuous emission measurement systems (CEMS)

- Requires two elements:
  - Measurement of the GHG concentration
  - Volumetric flow of the gas stream
- Extensive QA/QC measures required
- Corroborating calculations

European Commission

CEMS: General background



	QAL1	QAL2	QAL3	AST
When?	Before installation of the CEMS	Installation and calibration	During operation	Starting one year after QAL2
Frequency	Once	At least every five years	Continuously	Annually
Who?	Operator	Accredited laboratory	Operator	Accredited laboratory
Relevant standards	EN 14181, EN ISO 14956, EN 15267-3	EN 14181, EN 15259	EN 14181	EN 14181, EN 15259
Determination of flue gas flow	Suitable mass balance or CEMS (EN 16911-2)			

→ See GD7 for further guidance

25

European Commission

Calculation: standard methodology

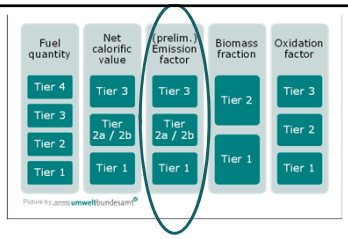
- **Combustion emissions:** $Em = FQ \cdot NCV \cdot EF_{pre} \cdot (1 - BF) \cdot OF$

- Em — Emissions [t CO_2]
- FQ — Fuel quantity [t or Nm³]
- NCV — Net Calorific Value [TJ/t or TJ/Nm³]
- EF_{pre} — Preliminary emission factor (i.e. total CO_2 incl. biomass) [t CO_2/TJ, t CO_2/t, t CO_2/Nm³]
- BF — biomass fraction [--]
- OF — Oxidation factor [--]

26

European Commission

Tiers for EF_{pre}



- **Tier 1**:
  - IPCC standard factor (table in Annex VI), or
  - if not listed in Annex VI, values based on historical analysis, if still representative
- **Tier 2a**:
  - Standard factors from national inventories, or other literature values compatible with those
  - Not relevant for MWI:
    Values guaranteed by the supplier (if demonstrated carbon content within 1% at 95% CI)
- **Tier 2b**: based on established proxies / correlations, e.g. between NCV and EF
- **Tier 3**: Based on sampling & chemical analysis (see next slide)

European Commission

Sampling & Analysis for MWI

- **Art 32**: General provision to use appropriate standards, e.g.
  - EN 14899 Characterisation of waste – Sampling of waste materials – Framework for the preparation and application of a Sampling Plan
  - CEN/TR 15310 Characterization of waste – Sampling of waste materials
  - ISO 21645:2021(en) Solid recovered fuels — Methods for sampling (which explicitly includes “municipal waste” in its definition an references several further standards for the specific parameters)
- **Art 33**: Provisions for a sampling plan to be written by the operator
- **Art 34**: Requirements for the accredited laboratory (EN 17025)
- **Art 35**: Frequency of analyses (Annex VII)

Untreated solid waste (pure fossil or mixed biomass/fossil)	Every 5 000 tonnes of waste and at least four times a year
Liquid waste, pre-treated solid waste	Every 10 000 tonnes of waste and at least four times a year

European Commission

MRR default EF in Annex VI

- Annex VI (corresponds to **Tier 1**):
  EF **Municipal waste (non-biomass fraction)**: 91.7 t CO_2/TJ (IPCC)
- **When can this value be used?**
  - CEMS (even meeting Tier 1 ±10%) incurs unreasonable costs, AND
  - Sampling & Analysis incurs unreasonable costs (incl. for health/safety issues), AND
  - Representative national default values (Tier 2a) not available.
- **How is this value to be used?**
  - Represents the EF of the fossil fraction
  - Biomass fraction would still need to be determined → pragmatic assumption: the EF can be used as the preliminary EF (i.e. operators would not have to determine biomass EF)

Biomass: RED II criteria for MWI

- Art. 29(1) RED II: "…Electricity, heating and cooling produced from **municipal solid waste [MSW] shall not be subject to the [GHG] saving criteria**…"
- In other words, RED II criteria do not apply to MSW → only needs to be demonstrated that the waste is indeed MSW (waste codes, etc.)
- → but the **biomass fraction** still needs to be determined

Biomass fraction (BF) and CEMS

- MRR Article 43(4) allows to subtract biomass emissions via:
  a) Calculation-based approaches:
     - Based on **source streams** (input-based; only method applicable in phase 3)
     - **"Continuous sampling" from the flue gas** (not continuous measurement): EN ISO 13833 ("Stationary source emissions – Determination of the ratio of biomass (biogenic) and fossil-derived carbon dioxide – Radiocarbon sampling and determination")
  b) The **"balance method"**, which is an estimation method in MRR terminology (based on ISO 18466 "Stationary source emissions – Determination of the biogenic fraction in CO_2 in stack gas using the balance method")
  c) **Estimation methods** published by the Commission → none published yet

BF and CEMS (special case: biogas)

- Article 39(3): biomass fraction of natural gas from the grid **shall not be based on analysis or estimation methods**
- Article 39(4): **using purchase records** of biogas of equivalent energy content (RED II compliance, no double counting)
- **New** Art. 43(4):
  *„Where the method proposed by the operator involves continuous sampling from the flue gas stream and the installation consumes natural gas from the grid, the operator shall **subtract the CO_2 stemming from any biogas** contained in the natural gas from the total measured CO_2 emissions. The biomass fraction of the natural gas shall be determined in accordance with Articles 32 to 35."*

BF Tier 3: Analysis

- Article 39(2): use **relevant standard** and the **analytical methods**, provided the use of the latter is **approved by the CA**
- Common standard: EN 15440 ("Solid recovered fuels – Methods for the determination of biomass)
  - The **selective dissolution** method (recommended for routine checks by RED II)
    - must not be applied if materials listed in Table 1 of GD3 are contained at above 5% threshold
  - The **manual sorting** method (recommended for routine checks by RED II)
    - only applicable for optically and physically distinguishable fractions (particle size >10mm)
  - The **^{14}C** method
    - most reliable (reference method), but also most expensive

BF Tier 2: Estimation methods

- Operator to propose an **estimation method for the approval by the CA**:
  - **"Balance method"**: based on five mass balances and one energy balance. Each balance describes a certain waste characteristic (e.g. carbon content, heating value)
  - Commission may provide guidelines for further applicable estimation methods → none published at the moment
  - Further method, but not applicable for MSW:
    - **Mass balance** where the material is originating from a known production process
    - **Mass balance as used under Article 30(1) of the RED II** will also serve this purpose

Recommendation: for not-yet proven methods, confirm validity by applying corroborative methods (e.g. analyses) at the beginning.

BF Tier 1: Default values

- Published by **the CA**
- Published by **the Commission** → none available yet
- **Other default values** in accordance with **Art. 31(1)**:
  - national inventory values, analyses in the past and still representative, etc.
  - i.e. methods which usually correspond to tiers 1 and 2a/2b for e.g. NCV, EF

Recommendations:
- CA to publish default values, where appropriate and useful (best case: consistent with national inventories, equivalent to "Tier 2a")
- The Commission may collect default values and consider publication (EU-wide applicability)

European Commission

Impact MWI requirements on verification

Monitoring requirements for MWI are similar to the monitoring requirements of other combustion installations

- Impact on the AVR is minimal: the same verification requirements apply to the verification of MWI's emission reports
- There is however practical impact on verification
  - ✓ MWI specific issues such as sampling and analysis of municipal waste are factors that need to be taken into account when determining time allocation
  - ✓ Inherent and control risks may be higher if data flow and monitoring methodology is complex
  - ✓ Same type of checks are carried out for MWI as for other combustion installation but:
    - ❖ verifier may have to check waste catalogue numbers to check whether source stream is municipal waste.
    - ❖ where installations are covered by EU ETS and have MWI, which MRV processes are covered only for MRV processes (there could be two MPs).

European Commission

Impact MWI requirements on verification

- Continued: practical impact on verification
  - ✓ Checks on CEMS are similar as for other combustion activities (GD 7 provides further information for verifiers)
  - ✓ Checks on evidence accredited and non-accredited labs as well as the operator's sampling plan are similar but guidance on M&R specific issues is needed to inform verifiers on the specifics of monitoring of emissions of municipal waste
  - ✓ MWI specific issues may result in how verifier focus their checks on data and the implementation of the monitoring methodology and carry out data sampling
- Verifiers and auditors need to be aware of the new MRR rules and how to take into account MWI specific elements

37

European Commission

Impact MWI requirements on verification

- No need for additional accreditation scope: the current scope 1B can cover this type of verification
- Update of guidance and development of training material needed
  - ✓ Specification in the Explanatory Guidance that verification of AER of MWI is similar to verification of other combustion installations
  - ✓ MWI specific factors for time allocation to be included in KGN II.12 on time allocation
  - ✓ KGN II.3 to be fine-tuned to accommodate MWI specific elements and factors that need to be considered
  - ✓ Minor revisions in the verification report template (e.g. use of municipal waste incineration in drop down box)
  - ✓ Clear MRR guidance on how to deal with MWI specific issues could facilitate the verification

38

European Commission

MRV under ETS2

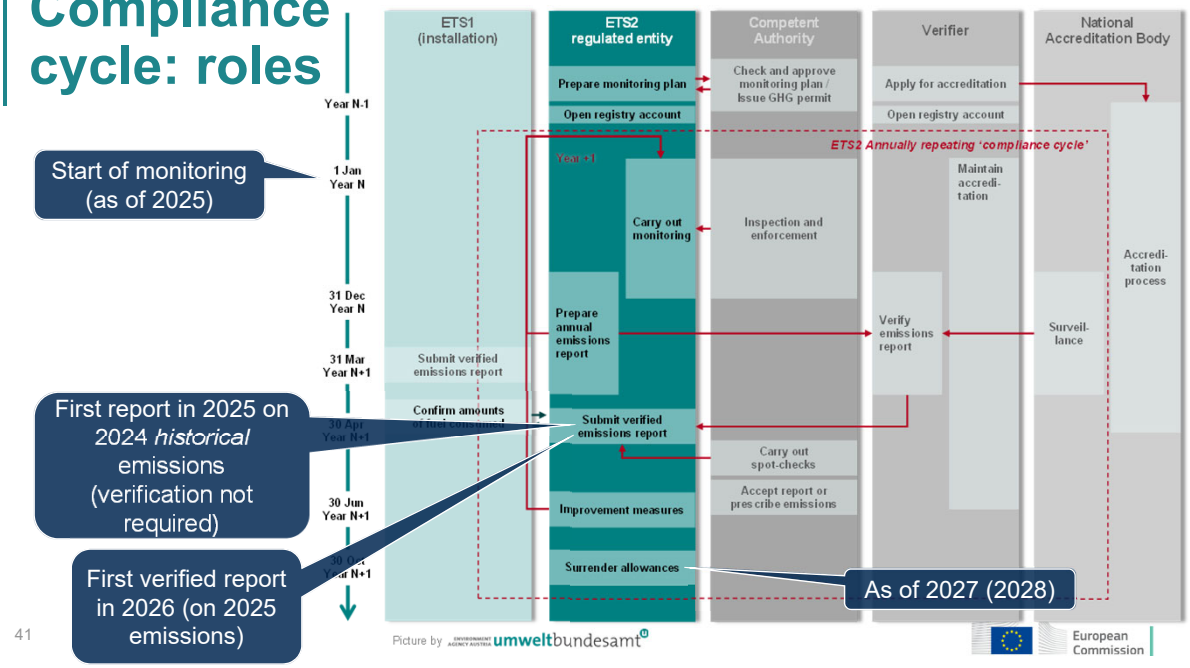
European Commission

General aspects

- **Separate system from existing ETS, however** building on ETS1 rules
- **Upstream system, regulating the fuel suppliers and not the end-consumers:** The triggering of a compliance obligation is the releasing on the market of fuels for combustion in the sectors concerned
- **Emissions will be determined indirectly** via the fuel quantities put on the market

European Commission

Compliance cycle: roles



41

Picture by umweltbundesamt

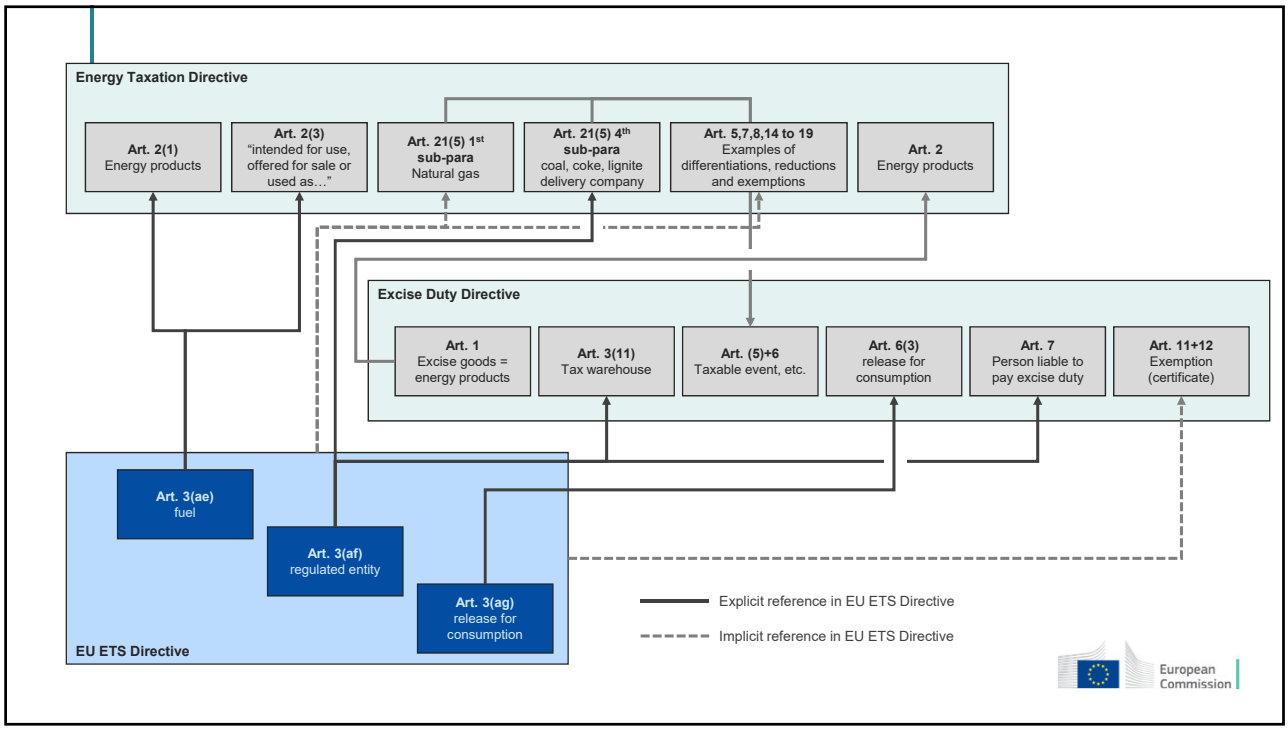
European Commission

Gradual introduction

- **By 1 January 2025**, regulated entities should have the greenhouse gas emission permits and start the monitoring of their emissions
- **By 30 April 2025**, regulated entities to report their *historical* emissions for 2024
- **From 2026 onwards**, the reporting on the basis of *verified* emissions
- **From 1 January 2027**, auctioning of new ETS2 allowances and start of trading
- **31 May 2028,** first ETS2 compliance deadline – regulated entities to surrender allowances for their emissions in 2027

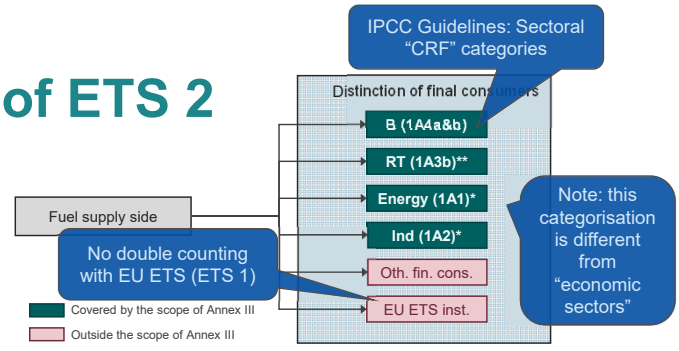
42

European Commission



Sectoral coverage of ETS 2

Covered sectors:
- Heating and Cooling in Buildings (**B**), residential AND commercial
- Fuels for Road Transport (**RT**)
- **Energy** (1A1) **& Industry** (1A2)



*Energy Industries (1A1) and Manufacturing Industries and Construction (1A2) including installations or units excluded under Art. 27a EU ETS-D, excluding other EU ETS installations

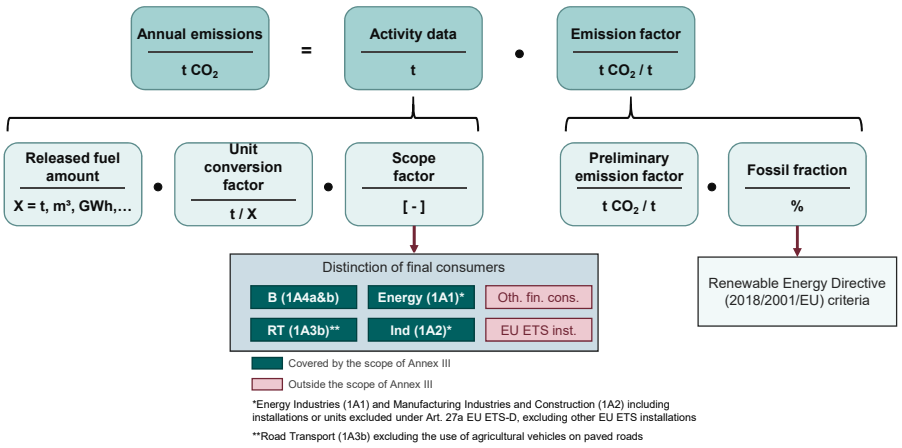
**Road Transport (1A3b) excluding the use of agricultural vehicles on paved roads

Main challenges:
- **Heating fuels** distinguish consumption of fuels for heating buildings (households and offices) and industrial uses from agricultural uses
- **Motor fuels**: distinguish consumption in road transport from off-road activities in industrial activities, agricultural use, (air) navigation

44

European Commission

Monitoring approach for ETS 2

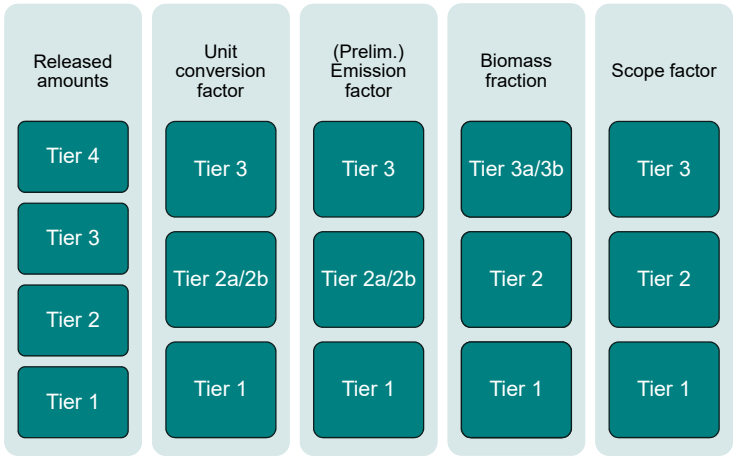


European Commission

What data sources can be used for each parameter?

European Commission

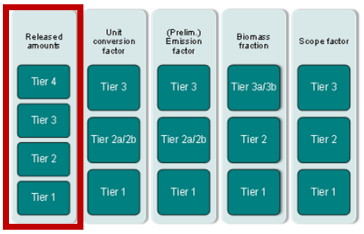
Tier system



Picture by umweltbundesamt

European Commission

Released amounts

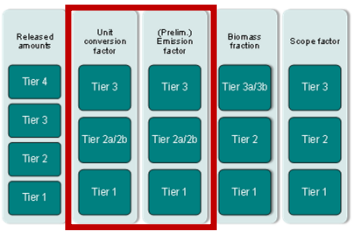


- **Higher simplicity** compared with ETS1 (commercial transaction, mostly at excise duty points)
- There are three ways how to determine activity data (fuel/material quantity):
  a) Measurement methods (not necessarily results → 'scope factor') consistent with obligations under **excise duty / energy taxation** regime
  b) based on aggregation of metering of quantities (**batch metering**)
  c) based on **continual metering**
- CA may require to use method a), where applicable
- For b) and c) similar tier provisions (uncertainty thresholds) and simplifications (e.g. maximum permissible error) as for ETS1 apply

Uncertainty assessment relevant but not required to be submitted to CA

European Commission

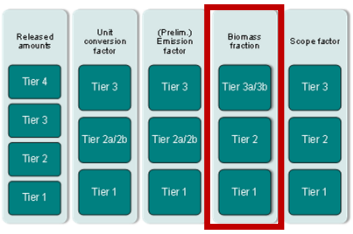
Calculation factors



- **Similar provisions to ETS1** (same type of fuels)
- **Tiers for *EF* and *unit conversion factor* (e.g. NCV, density):**
  - Tier 3: Sampling & Analysis (Art. 32 to 35)
  - Tier 2a: National default values (GHG inventories)
  - Tier 2b: Empirical correlation
  - Tier 1: International default values (IPCC)
- Fuels **'equivalent' to commercial standard fuels** (Art. 75k(2)):
  - < 2% (95% CI) for NCV
  - < 2% (95% CI) for EF, where the released fuel amounts are expressed as energy content
  - Conditions met during the last 3 years, evaluated every 3 years (COM's approval required)

European Commission

Biomass fraction



- **Similar provisions to ETS1** (same type of fuels)
  - Tier 3a: Sampling & Analysis (Art. 32 to 35)
  - Tier 3b: Mass balance, e.g. in accordance with Art. 30(1) RED II
    → similar update currently considered for ETS1 as well
  - Tier 2: Estimation methods
  - Tier 1: Default values published by CA or COM or Art. 31(1)
- **The compliance with RED II criteria**
  - Should be available for most tax warehouses for FQD reporting
  - Can be difficult to provide evidence in other cases. Synergies might be exploitable here by linking with existing databases (e.g. FQD for biofuels, national (bio)gas registers).
  - Wood materials (solid biomass) not relevant (not listed in ETD)

European Commission

Scope factor

"factor between zero and one that is used to determine the share of a fuel stream that is used for combustion in sectors covered by Annex III…"

Tier 3	Physical distinction of flows / separate metering	• Pipelines only to power plants • Fuel stations only dedicated for agriculture or heavy duty vehicles • Areas with no industrial sites connected to the gas grid
Tier 3	Chemical distinction of fuels (legal, technical or economic reasons)	• E.g. carbon or sulphur content of coal only suitable for industrial uses
Tier 3	Chemical marking (EU level)	• Fiscal marking of gas oil and kerosene under the Euromarker Directive
Tier 3	ETS 1 verified emissions report data	• To avoid double counting with ETS1
Tier 2	'Chain-of-custody': chain or traceable contractual arrangements and invoices	• Electronic self-declaration by final consumers passed through supply chain • (e.g. fuel cards, central registration, extension of the EMCS) • Reports from separate metering or ex ante fiscal/technical/energy audits
Tier 2	Chemical marking (national level)	• National fiscal marking
Tier 2	Other (indirect/estimation methods)	• Consumption profiles: daily or seasonal patterns • Capacity of consumers' consumption levels, pressure levels (e.g. natural gas) • Commission may provide guidelines
Tier 1	Further default values	• Default value of 1 (ex-post compensation) • Certain exemptions

European Commission

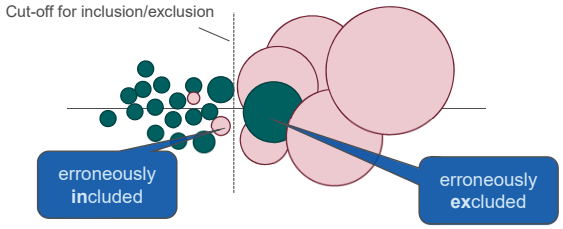
Scope factor II

- **Tier 1**: Default value of 1 (Art. 75l(3))
- **Exemptions** (Art. 75l(4) and (6)):
  - **2024 to 2026**: values <1, if more accurate
  - **2027+**: Values <1, if:
    - De-minimis fuel stream, OR
    - Scope factor has to be outside [5%...95%]
  - CA may require use of **certain methods (Tier 3 and 2) or default values**
    - For any default value for 'national fuel stream', the scope factor has to be outside [5%...95%] and COM's approval has to be sought
- Any ex-post compensation regulated in separate act (outside MRR)

European Commission

Example: Scope factor Tier 2 indirect method

- Where Tier 3 methods are not available or would incur unreasonable costs, etc.
- In particular for **natural gas**, indirect methods based on **consumption profiles** (increased feasibility with wider uptake of smart gas meters), **seasonal patterns**, **statistical modelling** by DSOs could help to 'indirectly' identify final consumers



Options for further improvement:

a) Accept occurrence of such cases
b) Register consumers with highest doubt
c) Consider (financial) ex-post compensation
d) Etc.

53

European Commission

Which tiers have to be applied?

54

European Commission

Categorisation

- Regulated entities (Art. 75e(2)):
  - **Category A** <= 50.000 t CO_2(e) /year
  - **Category B** > 50.000 t CO_2(e) /year
- Exclusion of emissions from sustainable biomass (zero-rated)
- **Regulated entity with low emissions** < 1 000 t CO_2(e) /year
- Fuel streams (Art. 75e(3)):
  - **De-minimis fuel streams:** jointly correspond to less than 1.000 t fossil CO_2(e) / year
  - **Major fuel streams:** not classified as de-minimis

European Commission

Required tiers

Regulated entity category	Fuel stream category	Released fuel amount Unit conversion factor Emission factor (EF) (same as for ETS1)	EF for commercial standard fuels or fuels meeting equivalent criteria (Art. 75k(2); same as for ETS1)	Scope factor
Cat. B (> 50kt)	**Major**	*Highest Tier*	*Tier 2a/2b (Annex V)*	*Highest Tier*
Cat. A (≤ 50kt)		*Tier in Annex V (EF: 2a/2b)*		
All	**De-minimis** (≤ 1 000 t CO_2)	*Conservative estimates unless tier is achievable without additional effort*		
Regulated entity with low emissions (< 1 000 t CO_2)		*Minimum Tier of 1 - Similar to ETS1 (e.g. documented purchasing records)*		
Reasons for derogation from required tiers		*Technical infeasibility or unreasonable costs*	*n.a.*	*Technical infeasibility* *Unreasonable costs* *Methods not available* *Simplified uncertainty assessment* *Special exemptions for de-minimis fuel streams and for 2024 to 2026*

Different from ETS1 derogation provisions!

European Commission

Example: Split into fuel streams

Fuel stream	Type of fuel	Released amounts	Means	(Intermediate) consumer	Final consumer sector	Scope factor method	Scope factor
1	Gasoline	100 t	Trucks	Fuel stations	1A3b	Tier 2 (chain-of custody)	1
2	Light fuel oil	21 t	Pipelines	Energy Industry (non-ETS1)	1A1a	Tier 2 (chain-of custody)	1
3	Light fuel oil	x t	Pipelines	ETS1 installations Energy Industry (power plant)	1A1a	Tier 3 (ETS1 verified emission report)	0
4	Light fuel oil	70 – 21 – 14 – x t	Trucks	ETS1 installations Industry	1A2c	Tier 3 (ETS1 verified emission report)	0
5	Light fuel oil	14 t	Trucks	Industry	1A2	Tier 2 (chain-of custody)	1
6	Light fuel oil	30 t	Trucks	unknown	1A	Tier 1	1

Recommended approach: split by types of fuels | means through which released | CRF (as disaggregated as possible) | Scope factor method (aim: either 0 or 1)

Avoiding double burden/counting ETS 1/2

- Art. 75v(1): MS shall facilitate efficient **exchange of information** to enable ETS2 entities to determine the end use of the fuel
- Art. 75v(2): **ETS1 operators** shall submit information in **Annex Xa** (as part of AER)
  → MS may require to make available to ETS2 entity (e.g. fuel supplier) before 31 March
- Art. 75v(3): **ETS2 entities** shall submit information in **Annex Xb**
- Annexes Xa and Xb:
  - Name, address, ID, etc. on supplier/consumer
  - Type and amounts of fuels used, etc.
  - Etc.
- Art. 75v(4): **fuel amounts acquired but not used in year Y** may only be deducted if the **ETS1 AER in year Y+1 confirms** they have been used for Annex I activities.
  Otherwise, the **difference shall be reflected** in the verified emission reports of the regulated entity of that year.

Further aspects

- Summary of procedures as part of the MP
  - Similar to ETS1 (data flow activities, control measures, etc.)
  - Risk assessment to be carried out and submitted to CA (Art. 75b(2))
- Improvement report (Art. 75q, similar provisions to ETS1)
  - for a **category A** entity, every **5 years**
  - for a **category B** entity, every **3 years**
  - for any regulated entity that is using the **default scope factor** as referred to in Article 75l(3) and (4), **by 31 July 2026**
  - Operator has to submit an IR if the **verification report** contains outstanding non-conformities or recommendations.
- ETS2-related Articles in the MRR shall apply as of **1 July 2024**

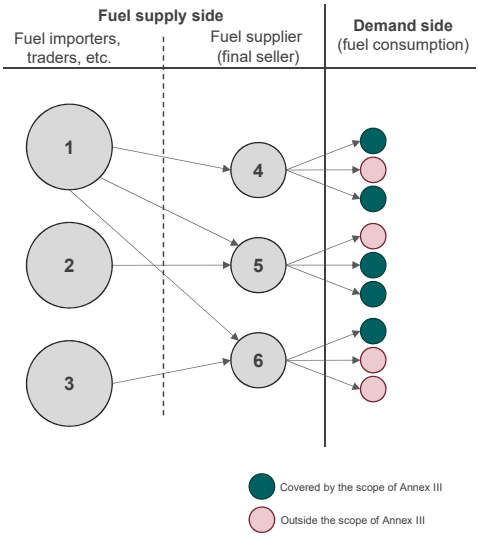
Next steps

- Development of guidance and templates
  - **General guidance**:
    based on similar structure in GD1 (Installations) and GD2 (Aviation)
  - **Templates (MP, AER, IR)**:
    based on similar structure for installations and aviation
- **Tentative planning**: Publication in **Q1/2024**

Back-up slides

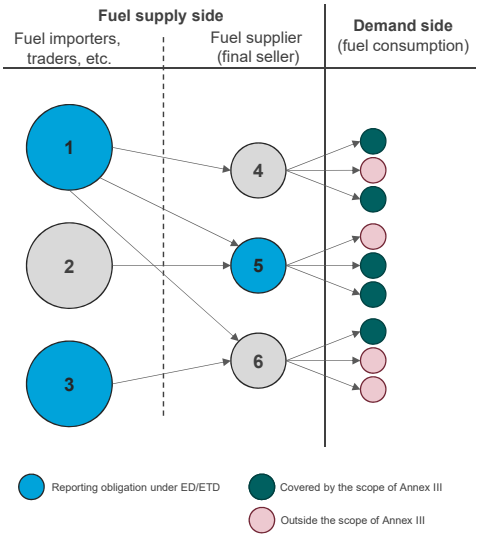
European Commission

Illustrative example: Starting point



European Commission

Illustrative example: Starting point



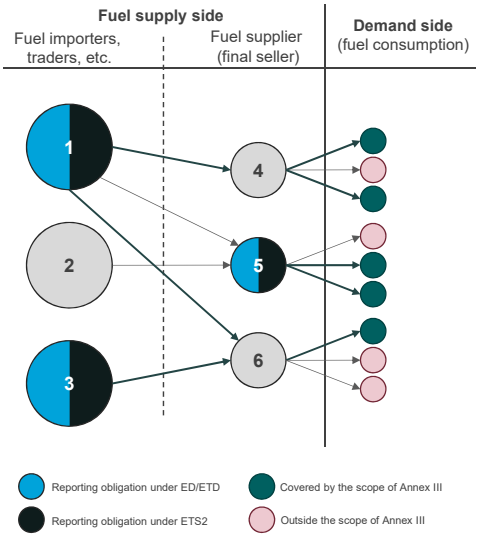
Assumption for the example:

- Supplier **1**, **3** and **5** have reporting obligations under the Reg 2020/262 / ETD (e.g. tax warehouses)
- Supplier **2** only trades fuels under duty suspension
- Suppliers **4** and **6** have no tax warehouse (i.e. tax already paid by **1** and **3**)

63

European Commission

Illustrative example: Step A



Looking for suitable methods to identify final consumers:

- Existing methods under the excise duty regime?
- Physical or chemical distinction?
- Chemical Marking?

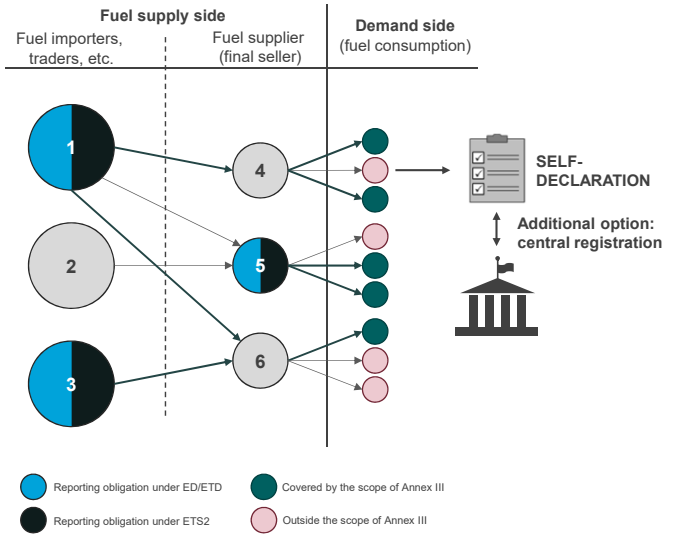
→ assume that's all not applicable

→ try to establish 'chain-of-custody' (see next slide)

64

European Commission

Example: Tier 2 Chain-of custody



Options for registration:

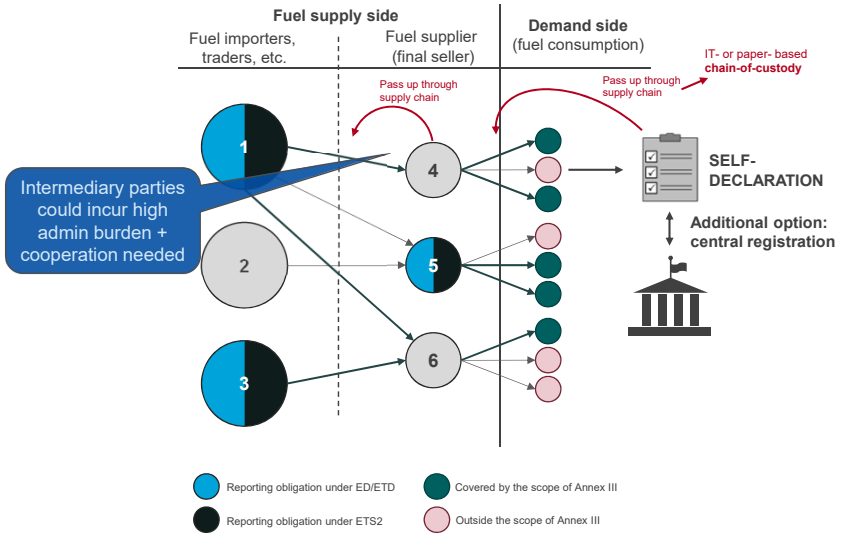
- ALL consumers
- Only covered by scope
- Only excluded from scope (smaller number)

Information required:

- Address (transfer point)
- VAT number
- Economic activity
- Etc.

European Commission

Example: Tier 2 Chain-of custody



European Commission

Impact of ETS2 requirements on verification and accreditation

European Commission

Verification in ETS 2

Annual emission reports of regulated entities have to be verified by a verifier accredited by a National Accreditation Body according to the AVR

- ETS2 verification follows the same steps as in other ETS verification
  - ✓ Requirements to conduct strategic analysis and risk analysis, draw up a verification plan based on these analyses and carry out the actual verification
  - ✓ The application of reasonable level of assurance
  - ✓ The fact that the verifier takes the monitoring plan as a starting point and assesses the implementation of that plan, the accuracy of data and opportunities of improvements
  - ✓ The fact that an emission report cannot be verified as satisfactory if the data is not free from material misstatement
  - ✓ Correction of any non-compliance, non-conformities and misstatements identified
  - ✓ Similar impartiality requirements and requirements on verifier's procedures

European Commission

Verification in ETS 2

- On some areas there are however issues that need an ETS2 specific approach
  - ✓ An ETS2 specific materiality level needs to be defined however the principle of applying materiality remains the same (not only applying a materiality level but also looking at whether an error would affect the decision of the CA (e.g. particular circumstances)
  - ✓ The verifier will have to check the completeness of fuel streams and released amounts of fuels released for consumption in the upstream system
  - ✓ The verifier would have to do checks on the application of the scope factor as approved in the monitoring plan
  - ✓ Specific checks in the data verification (consistency checks to ensure accuracy of data)
  - ✓ Site visits are mandatory but it is assessed whether site visits can be waived under certain condition when the monitoring methodology is simple and risks are low
  - ✓ Other opportunities to simplify verification for very small regulated entities (with emissions associated to released fuel amounts of <1000 tonnes of CO_2

Accreditation in ETS 2

- Verifiers carrying out verification in ETS2 require similar competences as verifiers carrying out combustion activities
- As some aspects in the upstream ETS2 are different compared to the verification of stationary installation, a separate accreditation scope is needed
  - ✓ Many of the procedures will however be similar so there could be opportunities for building on existing processes and facilitating the accreditation
- The same requirements on accreditation process and surveillance would apply to ETS2 verification and accreditation
- ETS2 specific knowledge is needed for verifying emission reports under ETS2: e.g. ability to check the scope factor, how to assess fuel streams
- Verifiers need to be aware of the new MRR rules on ETS2 and the corresponding guidance
- Information exchange requirements between CA and NAB would also be applicable for ETS2 but templates need to be updated to allow reporting under ETS

Impact on verification practice

- The revision of the AVR is expected to be adopted in March 2024 and new guidance and verification report template will follow soon thereafter
- CA, NABs and verifiers need to prepare early in order to be in time for the new accreditation (e.g. informing themselves on the new rules, adapting procedures and systems, training auditors and experts)
- New rules will have an impact on the verification practice
  - ✓ Ability to manage several types of verifications at the same time
  - ✓ How to determine time allocation (new factors need to be taken into account)
  - ✓ Verification planning and obtaining knowledge on what data and control activities are relevant and what type of checks are needed
  - ✓ How to deal with information that comes from external sources such as energy tax data (to what extent can the data be relied on, what additional checks are needed, how to cooperate/ communicate with tax authorities)
- Guidance will explain these issues to help verifiers, NABs and CAs in this process

European Commission

EU ETS-Reporting Tool

EU ETS COMPLIANCE FORUM

Training event on EU ETS phase 4 developments

17/10/2023

Agenda

- CAs' list of functionalities
- Operators' list of functionalities
- Verifiers' list of functionalities
- Live Demo
- Q&A

European Commission

MRV – Operators' list of functionalities

- Fill-in or upload (Excel) and submit Monitoring Plan.
- Fill-in or upload (Excel) and submit Annual Emission Report.
- Fill-in or upload (Excel) and submit Improvement Report.
- Verifier selection

European Commission

MRV – CAs' list of functionalities

- Stationary installation management.
- Aircraft operator management.
- Verification bodies management (verifiers and independent reviewers).
- Review and approval of Monitoring Plan.
- Review of Annual Emission Report.
- Review of Verification Report.
- Review and approval of Improvement Report.
- Data extraction from submitted MP, AER, VR and IR.

MRV – Verifiers' list of functionalities

- Review the Annual Emission Reports and the Monitoring Plans
- Fill-in and Submit the Verification Report
- Involve Independent Reviewers to review the Verification Report

Live Demo

Three publicly available environments.

All three require EU Login 2-factor Authentication.

- Training: https://webgate.training.ec.europa.eu/eu-ets-reporting
- Acceptance: https://acc.ets-reporting.ec.europa.eu/eu-ets-reporting
- Production: https://ets-reporting.ec.europa.eu/eu-ets-reporting

Useful Information

- User Manual: https://climate.ec.europa.eu/sites-0/emission-trading-system-mrv-reporting_en
- Support Ticketing Tool: https://webgate.ec.europa.eu/etsis/
- Support Functional Mailbox: EU-ETS-Reporting-ServiceDesk@westpole.be

Other developments: EU ETS aviation and EU ETS maritime

European Commission

Overview

- Aviation:
  - Scope
  - (Free) allocation and eligible aviation fuels
  - Further MRR changes
  - Non-CO_2 effects of aviation
  - CORSIA implementation
- Maritime Transport
  - General compliance process
  - Monitoring and reporting methods and rules
  - Ongoing developments (upcoming implementing and delegated acts)

European Commission

Aviation – Scope (1)

- The EU ETS Directive (amended by Directive (EU) 2023/958) changes the Scope as follows:
  - EU ETS scope ("reduced scope" – intra-EEA flights and flights departing from EEA to Switzerland or the United Kingdom) for which **allowances need to be surrendered**:
    - Include from 2024 all "flights between an aerodrome located in an outermost region and an aerodrome located in another region of the EEA", and flights departing from an aerodrome located in an outermost region and arriving in Switzerland or the United Kingdom; but
    - Exclude until 2030 all "flights between an aerodrome located in an outermost region of a Member State and an aerodrome located in the same Member State, including another aerodrome located in the same outermost region or in another outermost region of the same Member State."
- *(Note: Further minor update in AER template: Swiss ETS now includes flights from CH to UK)*

81

European Commission

Aviation – Scope (2)

- CORSIA scope ("international flights") – flights for which **"units" have to be cancelled**:
  - Flights between {EEA, UK and CH} and {States listed in the implementing act adopted pursuant to Article 25a(3), i.e. participating in CORSIA}, and flights between the States that are listed in that implementing act.
  - Relevant only for aircraft operators
    - holding an AOC or registration in a Member State, in its outermost regions, dependencies or territories; and
    - Performing flights with aircraft >5 700kg emitting >10 000 tCO_2 on flights other than departing and arriving at the same Member State and
    - Excluding specific flight types (State flights, humanitarian flights, medical flights, military flights, firefighting flights, etc.)

82

European Commission

Aviation: Free allocation rules

- Phase out in 2024 and 2025, then full auctioning from 2026
- Not based on tkm × BM_{tkm} anymore, but based on 2023 emission (grandparenting), taking into account flights that will be covered from 2024
  - Free allocation will be allocated to aircraft operators proportionately to their share of emissions reported in 2023
  - All references to tkm data removed from MRR (batch 1)
  - The AER template for 2023 is currently being amended to ask for data on the additional flights during 2023 on voluntary basis (data supplemented by Eurocontrol in case the data is not reported by the AO)

Aviation: Auctioning

- Full auctioning from 2026
- Exception to auctioning:
  - total of 20M allowances will be reserved between 2024 and 2030 to be allocated for free for supporting the use of “eligible aviation fuels”
    - Requirements for reporting eligible fuel use already included in MRR update batch 1
    - AER template will be adjusted in 2024
  - In 2026, 5M allowances added to the ETS Innovation Fund, for which airlines and airports have already been eligible for support

Aviation – eligible aviation fuels (1)

- "Eligible aviation fuels" are sustainable aviation fuels and other aviation fuels, that are not derived from fossil fuels
- The “sustainable aviation fuel” (SAF) and other aviation fuels are identified in in the ReFuelEU Aviation Regulation (pending publication)
- Article 3c(6) of the EU ETS defines only specific SAFs as “eligible” (and MRR refers to that Article in the definition of “eligible aviation fuels”):
  - Advanced biofuels (defined in Article 2(34) of the RED II) if zero-rated under MRR (i.e. if they comply with GHG savings and sustainability criteria of RED II / Art. 38(5) MRR)
  - (non-fossil) RFNBOs which qualify for zero-rating (MRR update still pending)
  - Other eligible aviation fuels from non-fossil sources
  - Hydrogen from renewable sources if certified under RED II
- A guidance document may be prepared if necessary
- Reporting will be possible with the 2024 version of the AER template

Aviation – eligible aviation fuels (2)

- Operators can request the support in respect of commercial flights with emissions subject to EU ETS surrender requirements (equal treatment on routes, including non-EEA operators)
- Principle: *financial support = SAF price – (fossil kerosene price + ETS price + possible minimum EU-level tax on kerosene)*
  - No “double reward”, EU-level energy taxation will be taken into account once agreed
  - Visibility of funding (Article 30m(1))

Aviation – attributing fuels to flights

- Similar rules provided for biofuels (Article 54) and eligible aviation fuels (Article 54a) in 1st batch of MRR amendments:
  - For physical fuel* uplifts, attribute the fuel to the flight immediately following the uplift
  - Where no physical attribution is possible, attribute the fuel proportionally to all flights departing from that aerodrome and for which allowances are to be surrendered
  - Use of purchase records allowed, demonstrating that the fuel was actually delivered to the airport within the reporting period +/- 3 months.
  - Total quantities of biofuels / eligible fuels claimed must be within certain limits (amount of fuel does not exceed the technical possibilities of flights covered)
- Reporting of the preliminary emission factor is mandatory.
- **Other changes**: Default emission factor for Jet A fuel = 3,16 t CO_2 / t fuel (only from 2024 monitoring and reporting period)

87

* Fuel here means specifically a biofuel or eligible aviation fuel

European Commission

Aviation – outlook for further changes

2nd batch of MRR changes may include:

- Clarification that only improvement reports pursuant to MRR Article 69(4) (on verifier's findings) are required, but not those pursuant to Article 69(1)
- Practical implementation improvement:
  - If the aircraft operator cannot be identified by the call sign, the person that employs the captain of the flight becomes the aircraft operator. Only if that person is unknown, the owner of the aircraft will be considered the aircraft operator.
- Rules for zero-rating of RFNBO/RFCs will be added (harmonised with installations and ETS2)
- The legal wording for biofuels, eligible fuels, RFNBO/RCFs will be streamlined (simplified)
- A harmonisation of the small emitter thresholds (Art. 28a(4) EU ETS Directive vs. Art. 55(1) of the MRR) is envisaged

88

European Commission

Aviation – non-CO_2 effects

- From 1 January 2025, aircraft operators shall report once a year on non-CO_2 aviation effects
  - Art. 3(v) of the Directive: " *'non-CO_2 aviation effects' means the effects on the climate of the release, during fuel combustion, of* ***oxides of nitrogen (NO_x), soot particles, oxidised sulphur species, and effects from water vapour, including contrails****, from an aircraft performing an aviation activity listed in Annex I".*
- The Commission shall adopt by 31 August 2024 an implementing act (Art. 14(5) of the Directive) with detailed rules (MRR amendment).
- By December 2027, the Commission shall carry out an impact assessment and prepare, if appropriate, a proposal for mitigating non-CO_2 aviation effects (e.g. by inclusion in the EU ETS).

Aviation – CORSIA implementation (1)

- CORSIA is implemented in EU Legislation via the EU ETS Directive
- The CORSIA compliance mechanism requires that:
  - Operators report their emissions annually to the MS
  - MS report emissions to ICAO annually;
  - Every year ICAO calculates the "sector growth factor"
  - Every 3 years (first time in 2024 for 2021-2023), MS calculate the aircraft operators' offsetting requirement and inform them thereof;
  - Aircraft operators cancel the required amount of units
  - Aircraft operators will have to report to the MS on the cancellation (report to be verified)

Aviation – CORSIA implementation (2)

- The scope has been covered by the Directive (see earlier slide), although implementing acts pursuant to Article 25a(3) are required to define the scope in detail (the list of states participating in CORSIA will be updated annually).
- MRR and AVR apply for MRVA on the covered flights
- The units eligible for use have to be defined in an implementing act pursuant to Article 11a(3) of the EU ETS Directive
- Rules for calculating the offsetting requirement will be developed in an implementing act pursuant to Article 12(8)

Aviation: Already available information

- Tools:
  - MP template emissions: MP template
  - AER template: AER template
  - IR: IR template
- GD:
  - Quick Guide for Aircraft operators: https://climate.ec.europa.eu/system/files/2022-03/quick_guide_ao_en.pdf
  - GD 2: https://climate.ec.europa.eu/system/files/2023-05/gd2_guidance_aircraft_en.pdf

Maritime transport (MRV)

- Since 2018, large ships (>5.000 gross tonnage) loading or unloading cargo or passengers at ports in the European Economic Area (EEA) must monitor and report GHG emissions (currently CO2, from 2024: CH4 and N2O) from journeys starting or ending in a port call in the EEA
- Legal basis not in the EU ETS, but in the "Maritime MRV Regulation": Regulation (EU) 2015/757 of the European Parliament and the Council
- Monitoring and reporting is done for each ship separately
- Monitoring plans of ships are checked by verifiers, and as of 2024 (if within ETS scope), are to be approved by administering authorities
- After verification of the emissions report, the verifier issues a "Document of Compliance" (DoC) which the ship must carry on board as evidence of compliance. Port authorities can thereby check compliance during port calls, and impose penalties for non-compliance. Also Flag States check compliance.
- Verifiers must be accredited in an EEA MS
- All reporting is carried out within Thetis MRV hosted by EMSA (European Maritime Safety Agency)

93

European Commission

Maritime transport in the EU ETS (from 2024)

- Legal basis: EU ETS Directive, but MRV remains under MRV Regulation
- Coverage:
  - Greenhouse gases: 2024: CO_2, from 2026: CH_4 and N_2O
  - Emissions: 50% of voyages to / from EEA, 100% of intra-EEA voyages *and within EEA ports*
  - Phase-in: 40% in 2024, 70% in 2025, 100% from 2026
  - Some specific exemptions / reduction factors (certain small islands, ice-class ships, etc.)
  - Biomass requirements linked to MRR (RED II criteria)
- Compliance system:
  - Shipping companies (incl. non-EU ones) are attributed to the Administering Authority (AA) of a Member State, like in Aviation;
  - AA must approve monitoring plans of all ships falling within ETS scope (after verifiers' assessments)
  - Shipping companies submit verified company-level emission reports to AA, aligned with EU ETS scope, and surrender allowances for all their ships (like in other ETS)
  - All reporting is carried out within Thetis MRV

94

European Commission

Maritime transport – monitoring methods

- Maritime MRV Regulation, Annex I section B contains the following monitoring methods:
- Method A: Bunker Delivery Note (BDN) and periodic stocktakes of fuel tanks
  - Readings of period between port calls (similar to aviation methods)
- Method B: Bunker fuel tank monitoring on board
  - Daily reading of tank levels
- Method C: Flow meters for applicable combustion processes
  - Metering of all flows per period between port calls
- Method D: Direct greenhouse gas emissions measurement
  - CEMS

European Commission

Maritime transport – Calculation methods

- Formula and default values for emission factors (tank to wake) in Maritime MRV Regulation Annex I part A

$$GHG_{MRV} = CO_{2\,MRV} + CH_{4\,MRV} \times GWP_{CH_4} + N_2O_{MRV} \times GWP_{N_2O}$$

$$CO_{2\,MRV} = \sum_i (M_i - M_{i,NC}) \times EF_{CO_2,i}$$

$$CH_{4\,MRV} = \left[\sum_i (M_i - M_{i,NC}) \times EF_{CH_4,i}\right] + CH_{4S}$$

$$N_2O_{MRV} = \sum_i (M_i - M_{i,NC}) \times EF_{N_2O,i}$$

Not-combusted

Slippage

Index "MRV" indicates that these emissions are to be reported under the MRV Regulation. Values under EU ETS may differ and are to be determined following Annex II Part C rules.

M…Fuel mass
EF…Emission factor
GWP…Global Warming Potential
CO_2, N_2O, CH_4 : Emissions of the relevant gas

European Commission

Maritime transport in the EU ETS

- Annex II Part C of Maritime MRV Regulation and delegated act under Article 11a(4) define what needs to be reported (in addition to the total emissions under the MRV Regulation):
  - 1.1 General principle – Use the formulae given in Annex I
  - 1.2 Derogation from 1.1 for zero-rated biofuels and RFNBO/RCFs
  - 1.3 Derogation to fulfil the EU ETS scope (50% of emissions of extra-EEA voyages)
  - 1.4 Derogation for CCU and CCS
  - 1.5 Derogation for EU ETS Article 12(3-d), (3-c), or (3-b) – rules for certain islands, public service contracts, outermost regions
  - 1.6 Calculation of the ship's total aggregated emissions and derogation under Article 12(3-e) – ice-class ship's voyages
  - 1.7 Calculation of the ship's total aggregated emissions, taking into account Article 3gb → phase in of surrender obligation

Ongoing developments (1)

- Already adopted by the Commission, will be published after scrutiny by the European Parliament and the Council:
  - Commission Delegated Regulation amending Regulation (EU) 2015/757 as regards the rules for monitoring greenhouse gas emissions and other relevant information from maritime transport.
    - This updates Annexes I and II of the Maritime MRV Regulation with the new monitoring formulae and default values as shown in previous slide, and specifies the monitoring rules required for the EU ETS
  - Commission Delegated Regulation supplementing Regulation (EU) 2015/757 as regards the rules for reporting and submission of the aggregated emissions data at company level;
    - Based on Article 11a(4), specifies content of company-level emissions report, allows administering authority to determine emissions based on conservative estimate (similarly as MRR Article 70)

Ongoing developments (2)

- Commission Delegated Regulation on the verification activities, accreditation of verifiers and approval of monitoring plans by administering authorities pursuant to Regulation (EU) 2015/757
  - Very similar to AVR
  - Covering rules for
    - Verifier's assessment of ships' monitoring plans;
    - Administrating authority's (AA) approval of monitoring plans
    - Verification of ships' annual (or partial) emissions reports
    - Verification of company-level reports for the EU ETS (avoiding re-verification of ships' reports)
    - Requirements for verifiers' competence, accreditation,
    - Requirements for National Accreditation Bodies (NABs)
    - Information exchange between AA and NAB
  - Will be adopted by the Commission soon, and then subject to two-month scrutiny by EP and Council

Ongoing developments (3)

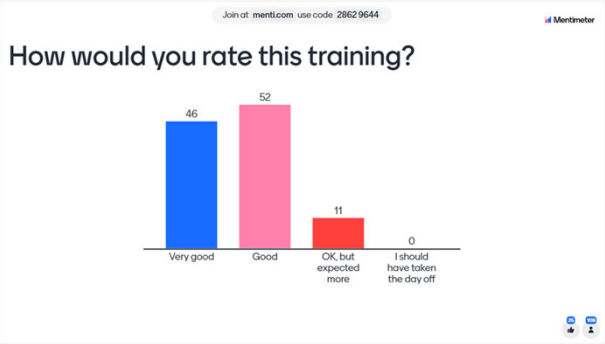
- Climate Change Committee (CCC) already voted positively, but Commission adoption is pending:
  - Commission implementing regulation amending Implementing Regulation (EU) 2016/1927 on templates for monitoring plans, emissions reports and documents of compliance;
  - Commission implementing regulation identifying neighbouring container transhipment ports.
- CCC Vote expected soon:
  - Commission Implementing Regulation laying down rules for the application of Directive 2003/87/EC of the European Parliament and of the Council as regards the administration of shipping companies by administering authorities in respect of a shipping company.
- Under development by Commission with support by EMSA:
  - Attribution list of shipping companies to administering authorities;
  - List of small islands and of transnational routes under public service obligation/contract subject to specific surrender derogations.

Maritime: Available information

- MRV Maritime Regulation: http://data.europa.eu/eli/reg/2015/757/2023-06-05
- CLIMA's maritime webpage (including links to the latest versions of relevant implementing and delegated acts): https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-shipping-sector_en
- FAQ-Maritime transport in EU ETS: https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-shipping-sector/faq-maritime-transport-eu-emissions-trading-system-ets_en
- FAQ - Monitoring, reporting and verification of maritime transport emissions: https://climate.ec.europa.eu/eu-action/transport/reducing-emissions-shipping-sector/faq-monitoring-reporting-and-verification-maritime-transport-emissions_en

European Commission

Mentimeter



European Commission

Thank you for your attention

Contact:

Hubert.fallmann@Umweltbundesamt.at

Christian.heller@Umweltbundesamt.at

m.oudenes@sqconsult.com

European Commission