



Workshop ETS2: monitoring plan development

+ Annual emissions report, Verification, Registry

Trinomics & Ricardo

Online
21 May 2024

www.trinomics.eu | www.ricardo.com

Ireland ETS2 outreach support workshop agenda

Date: 21/05/2024

	Topics	Presenter	Timing (IST)
PART 1	NCA introduction	The Environmental Protection Agency (EPA)	14:00 – 14:05
	Introduction and webinar recap	Trinomics consultant	14:05 – 14:10
	Monitoring methodologies	Trinomics consultant	14:10 – 15:00
	Q&A part 1	Trinomics consultant & NCA	15:00 – 15:15
BREAK			15:15 – 15:30
PART 2	Monitoring plans	Trinomics consultant	15:30 – 16:10
	Annual emissions reports	Trinomics consultant	16:10 – 16:20
	Verification	Trinomics consultant	16:20 – 16:30
	Registry	Trinomics consultant	16:30 – 16:40
	Q&A part 2 & Feedback survey	Trinomics consultant & NCA	16:40 – 17:00

Useful information

- Q&A session at the end of both workshop parts
- Please submit any questions throughout the webinar in the **Zoom chat only**
- We will ask interactive questions throughout, please have your mobile ready to connect
- The session will be recorded and the slides will be shared after the workshop. By remaining in the workshop you are agreeing to the recording of the session
- There will also be an evaluation survey at the end of the workshop which we encourage you to complete
- Final slides of this workshop presentation contain abbreviations, definitions and links to additional sources/guidance documents
- An FAQ document will be developed and distributed at the end of the series of workshops

Objective of the workshop

Main objective:

Walk through all the steps needed to draft a **monitoring plan (MP)**, as well as introduce the annual emissions report (AER), verification and Union registry.

Overview of the compliance cycle

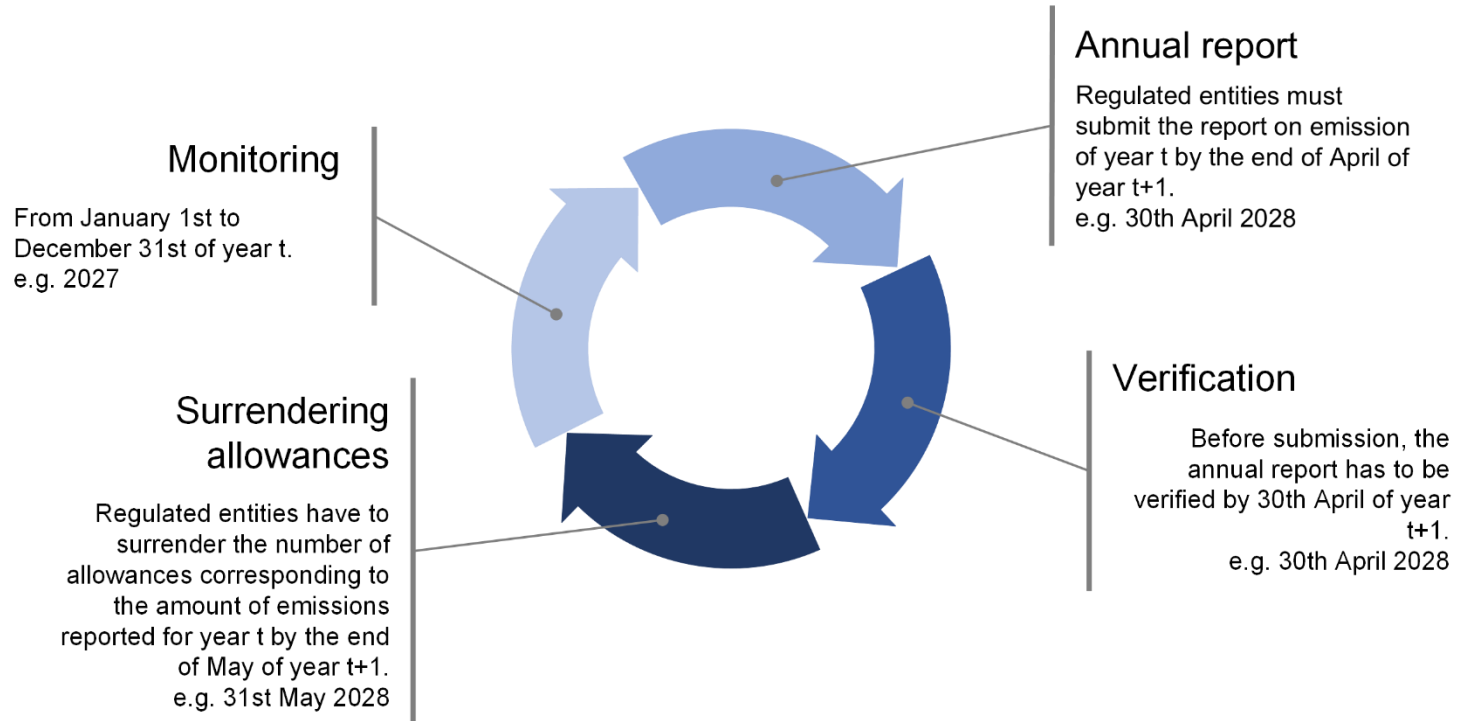
Monitoring, Reporting and Verification (MRV) requirements set by the Monitoring and Reporting Regulation (MRR) 2018/2066. Each regulated entity must submit a monitoring plan to their NCA before 1 January 2025.

Regulated entities need an account with the Union registry to perform transactions.

- **Surrendering:** the account holder transfers allowances to the Union Deletion account as part of its annual compliance obligation.
- **Penalties:** If an entity does not surrender sufficient allowances by the surrendering deadline, this triggers enforcement procedures (**fine of €100/tCO₂**).

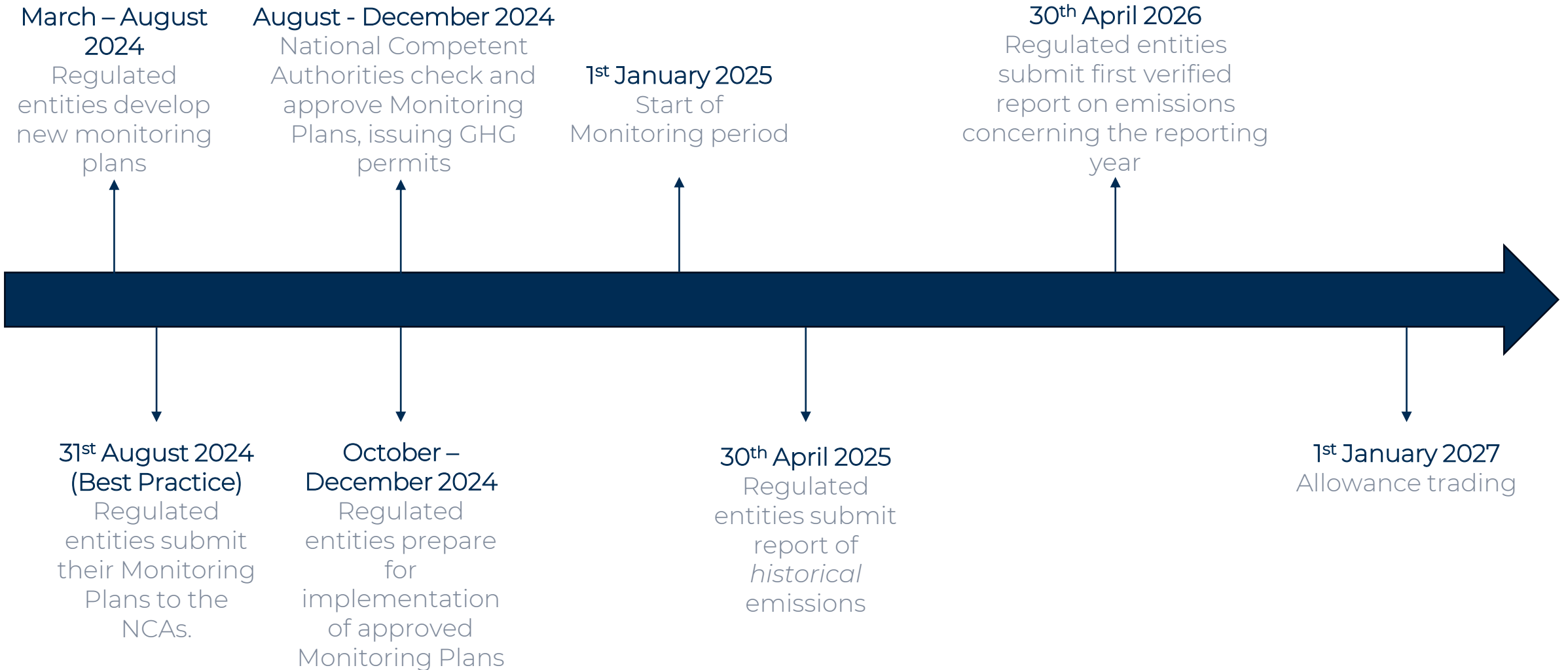
Regulated entities need an account with the Union registry to perform transactions.

- **Surrendering:** the account holder transfers allowances to the Union Deletion account as part of its annual compliance obligation.
- **Penalties:** If an entity does not surrender sufficient allowances by the surrendering deadline, this triggers enforcement procedures (**fine of €100/tCO₂**).

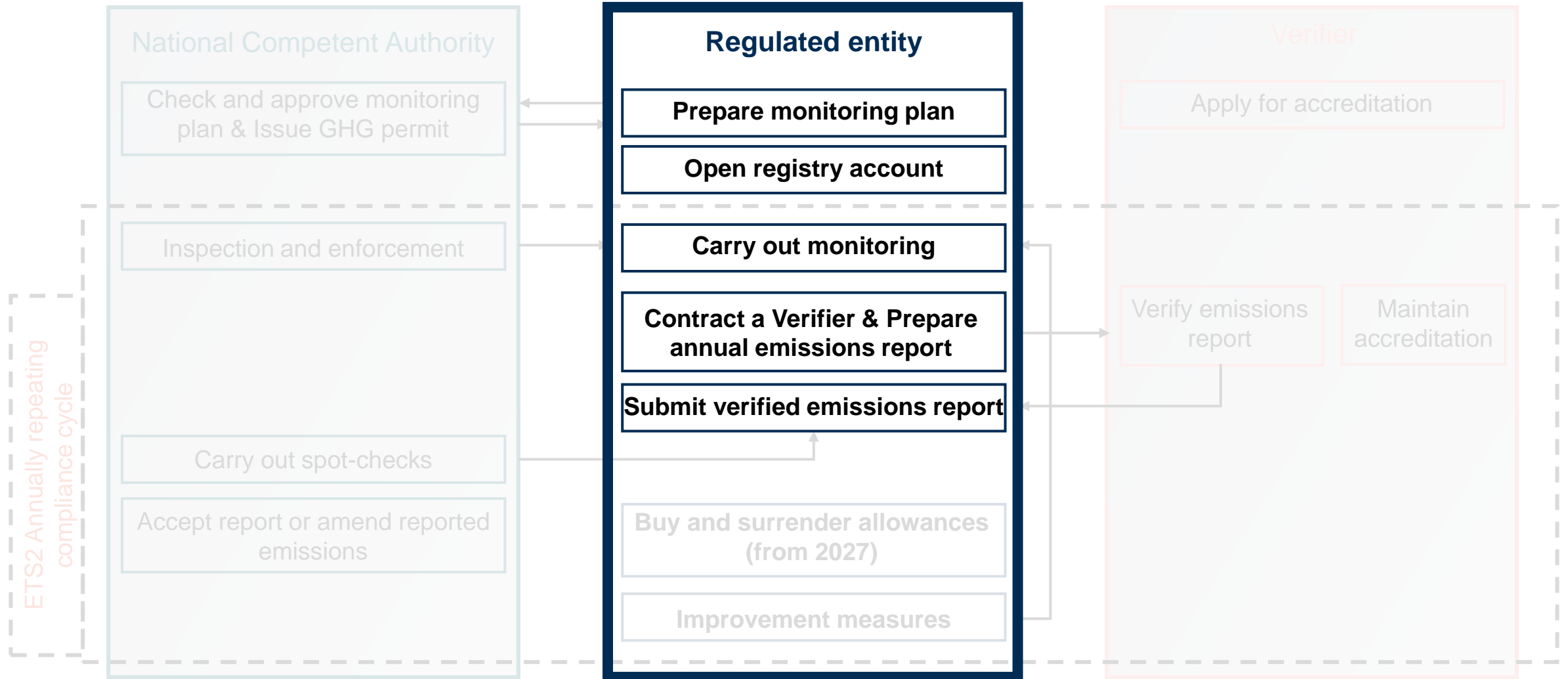


Note: Compliance cycle will start in 2025 but surrendering of allowances will take place only from 2028.

Milestones and deadlines



Responsibilities of regulated entities





Part 1: Monitoring methodology



www.trinomics.eu

What is the monitoring plan and methodology?

- Goal of this workshop is to explain how to draft a **monitoring plan (MP)**. The **MP** lays out in detail the **monitoring methodology** of the regulated entity (RE)
- The **monitoring methodology** shows how to determine the **emissions** associated with the combustion of fuels released for consumption
- **Aim of Part 1 of the workshop:** explain details of how to accurately monitor and calculate all steps of the calculation.

Underlying principles of ETS2 monitoring

6 key **guiding principles** for ETS2 monitoring:

1. Completeness: all emissions of all fuel streams in the sectors listed under ANNEX III of the EU ETS Directive

2. Consistency and comparability: Data needs to be consistent across years and comparable between regulated entities. No arbitrary changes to the plan are allowed, but always should be approved by the CA

3. Transparency: all data collection, compilation and calculation must be transparent:

- Whole data flow needs to be documented transparently. It should be securely stored (min. 10 years) and retained for 3rd party access

4. Accuracy: regulated entities should take care that data is accurate. Due diligence is required by RE

5. Integrity of the methodology and emission report: at the heart of MRV

6. Continuous improvement: duty of RE to regularly look for improvements of MP and respond to suggestions of the verifier

1: Completeness

2: Consistency and comparability

3: Transparency

4: Accuracy

5: Integrity

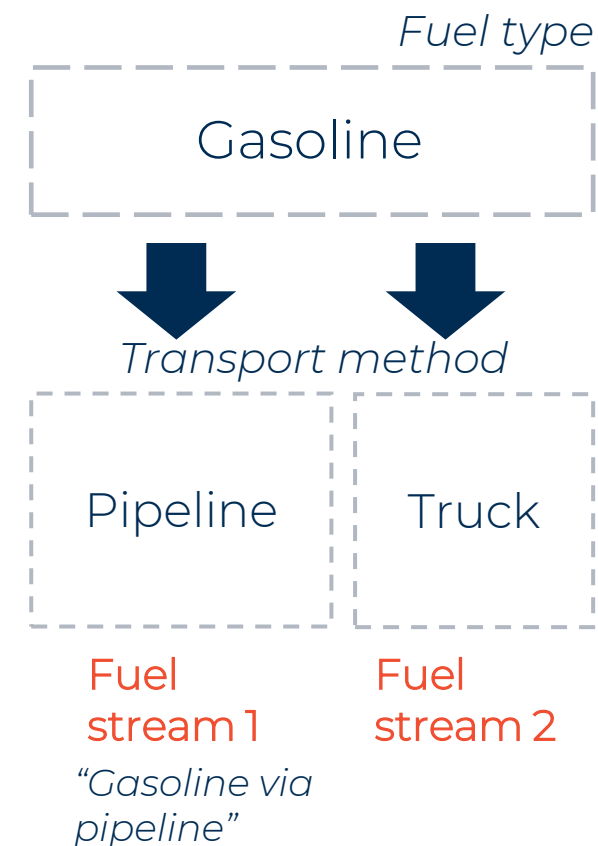
6: Continuous improvement

Fuel streams

- **Fuel streams** are all the **types of fuels** which a regulated entity **releases for consumption**, for which the emissions associated with the eventual consumption (i.e. combustion) have to be monitored
- There are requirements on how to split types of fuel into fuel streams, see the example (more details in Part 2)
- Different **fuel type categories**:
 - **Commercial standard fuels**: internationally standardised fuels (e.g. diesel and petrol)*. These have simplified monitoring requirements
 - **Fuels meeting equivalent criteria**: similarly standardized, but on national or regional level. These also have simplified monitoring requirements
 - **Other fuels (non-standardized)**: all other fuels, such as natural gas
 - Some CAs might have simplified monitoring also for this category
- *Note: electricity is not considered a fuel under ETS2*

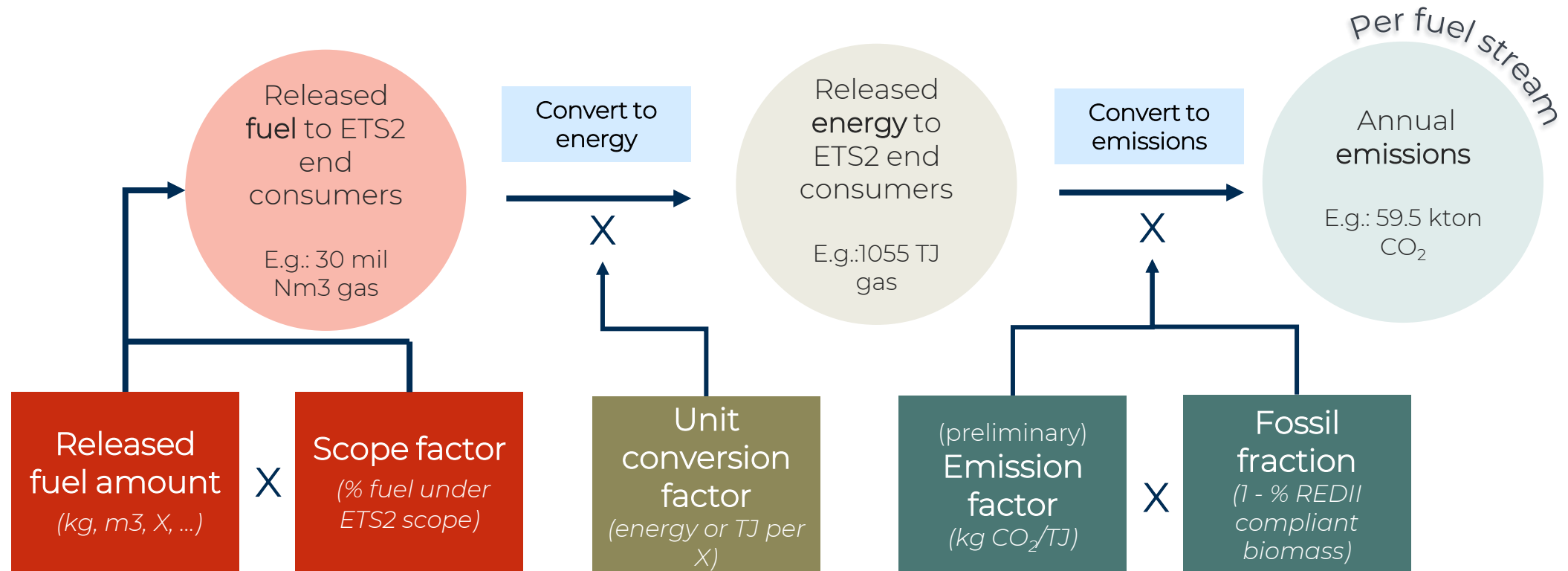
*Other commercial standard fuels are e.g. butane, propane, light fuel oil, kerosene

Simplified example



The calculation-based approach for monitoring

Basis of the methodology: **calculation-based approach** to determine emissions per **fuel stream**



The tier system – general principle

- Each parameter for the emission calculation can be determined by applying different data quality levels. These levels are called “**tiers**”
- Different specified methods can be used to achieve certain tier levels
- **General principle:**
 - **Higher tier** → High data quality: applicable to large fuel streams
 - *Requires more effort from RE to achieve*
 - **Lower tier** → Less accurate data quality: (generally) applicable to smaller fuel streams
 - *Requires less effort from RE to achieve hence ensuring **cost-effectiveness of M&R***

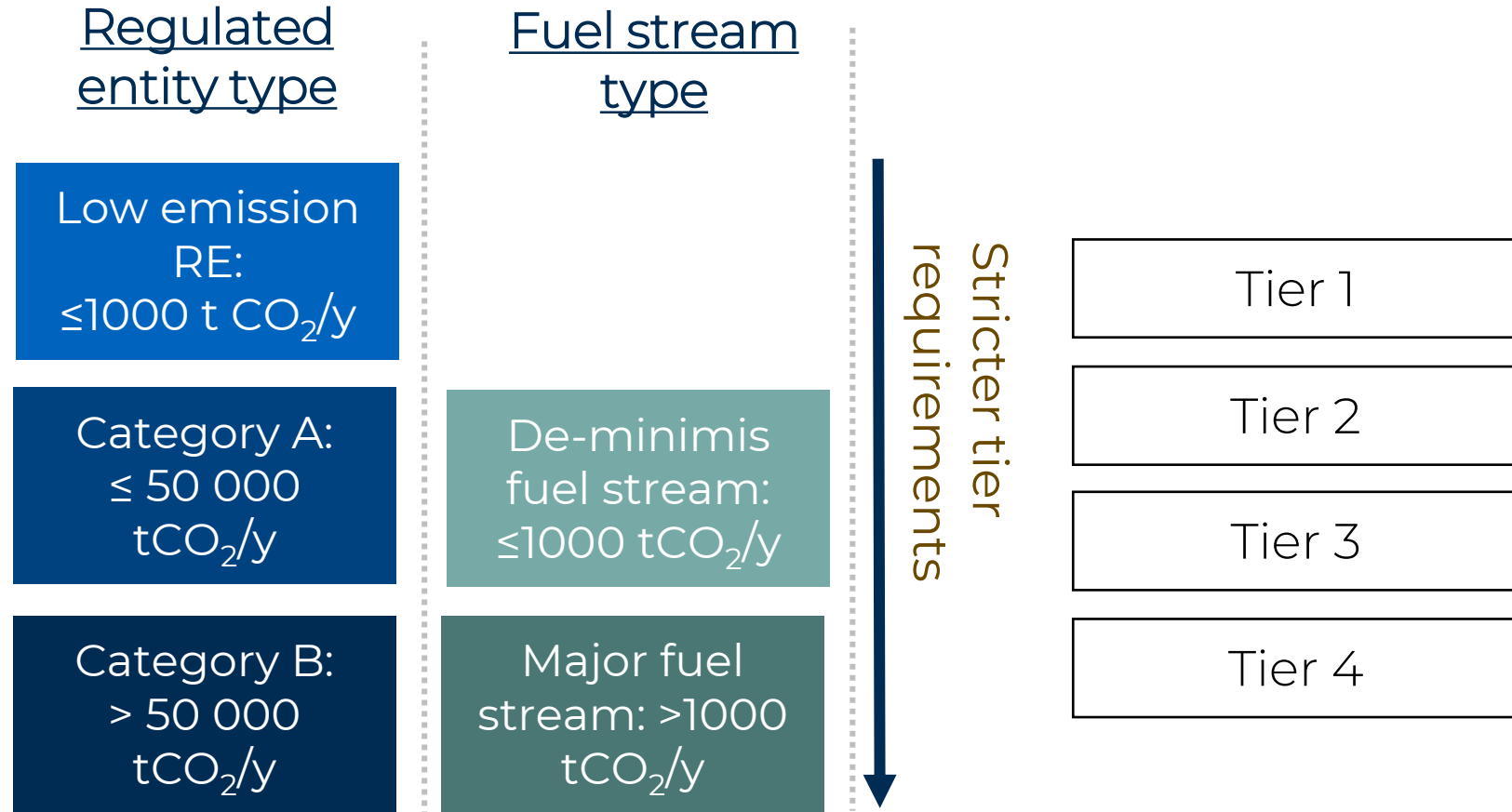
Available tiers

- REs must select certain tiers based on requirements set in MRR (e.g. size of the RE and fuel stream)
- Available tiers are:

Released fuel amount	Scope factor	Unit conversion factor	(preliminary) Emission factor	Fossil fraction
Tier 4	Tier 3	Tier 3	Tier 3a/3b	Tier 3
Tier 3	Tier 2	Tier 2a/2b	Tier 2	Tier 2
Tier 2	Tier 1	Tier 1	Tier 1	Tier 1

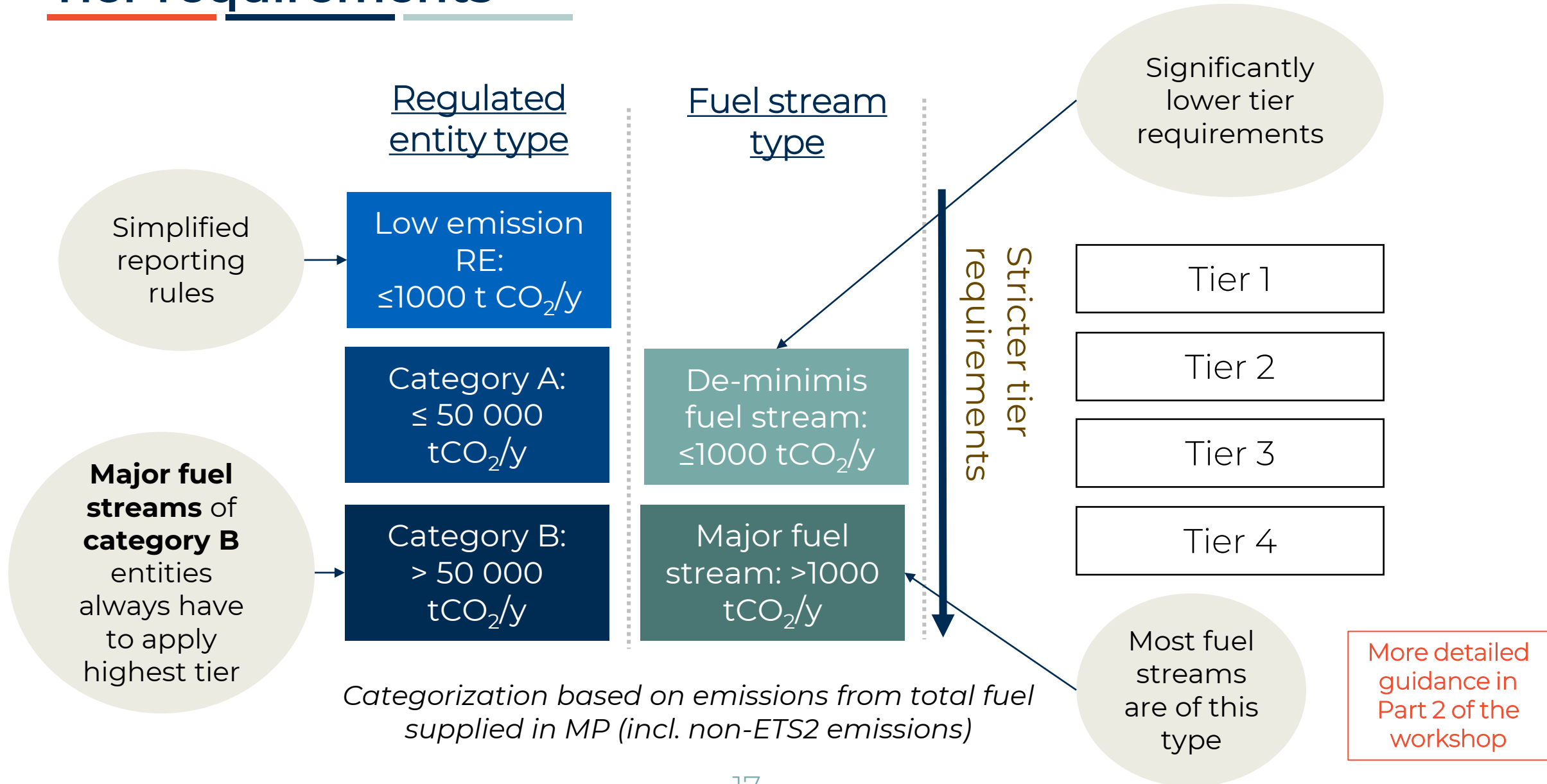
Member States can prescribe certain methods that need to be applied

Tier requirements



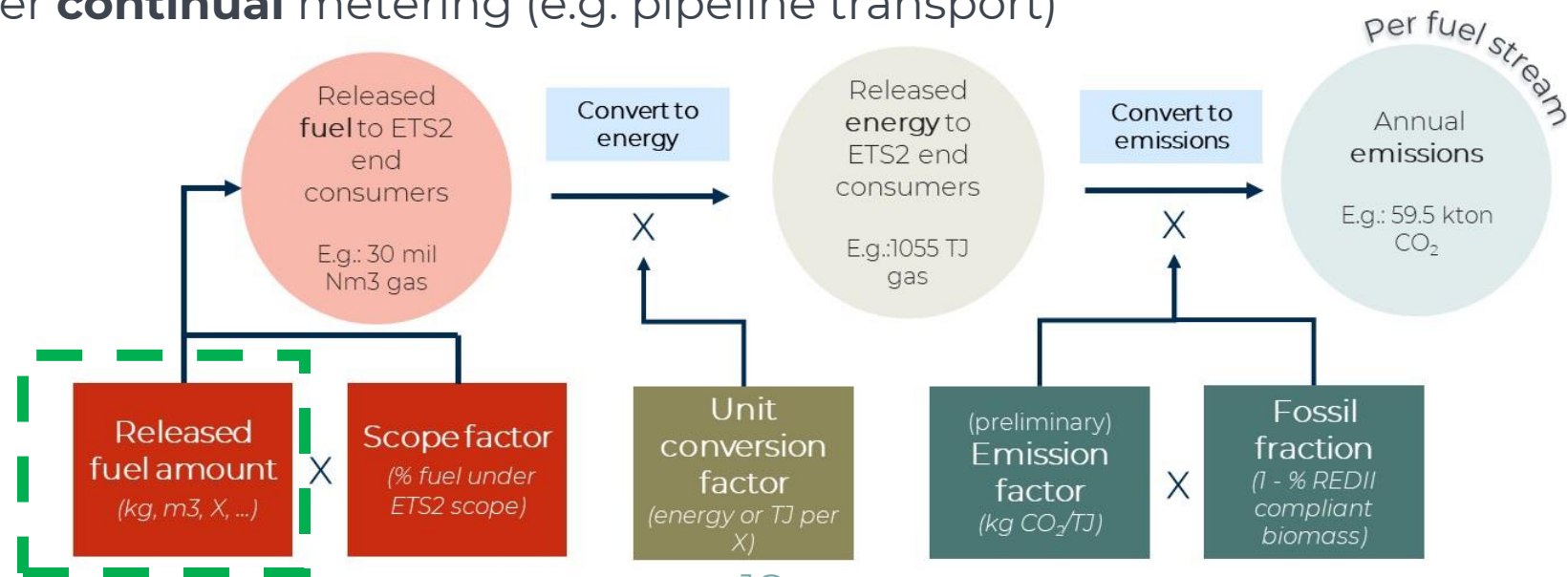
Categorization based on emissions from total fuel supplied in MP (incl. non-ETS2 emissions)

Tier requirements



Monitoring of released fuel amounts

- **Goal:** Accurately monitoring total **fuel released for consumption** by the fuel supplier
- **Three measurement methods** allowed:
 1. Measurement methods **under ETD regime** (if subject to national legal metrological control)
 - In most cases valid, making it easy for REs
 - In most cases batch or continual metering (see below)
 2. Other **batch** metering (e.g. truck deliveries of LPG)
 3. Other **continual** metering (e.g. pipeline transport)



Uncertainty assessment

Uncertainty assessment to determine tier based on maximum uncertainty of measurement

Entities under the ETD/ED regime

- **No assessment needed** and direct compliance with the highest tier if
 - RE is the same entity with reporting obligations under the ETD/ED
 - The same measurement methods as under the ETD/ED are used
 - These methods are subject to national legal metrological control

Tier	Maximum permissible uncertainty
1	± 7.5%
2	± 5.0%
3	± 2.5%
4	± 1.5%

Entities or methods not under the ETD/ED regime

- **Assessment needed** of uncertainty related to measuring instruments, its calibration, its use in practice and influence of determining start/end of year stocks
- Simplification possible by using the Maximum Permissible Error in service for uncertainty

→ Guidance Document 4 and 4a + Excel tool available on [COM website](#)

Timing of measurement

- **Standard measurement date:** midnight of 31st December every calendar year
 - Makes sense for many fuel streams
 - Applicable to each fuel stream
- Option to **shift measurement date** to next most appropriate day
 - Allowed to shift date per fuel stream

Example

A fuel supplier delivers natural gas to households without smart meters. Meters are read out manually once a year on 31 May. However, ETS2 emissions for each preceding calendar year need to be reported on 30 April (1 month before annual meter reading).

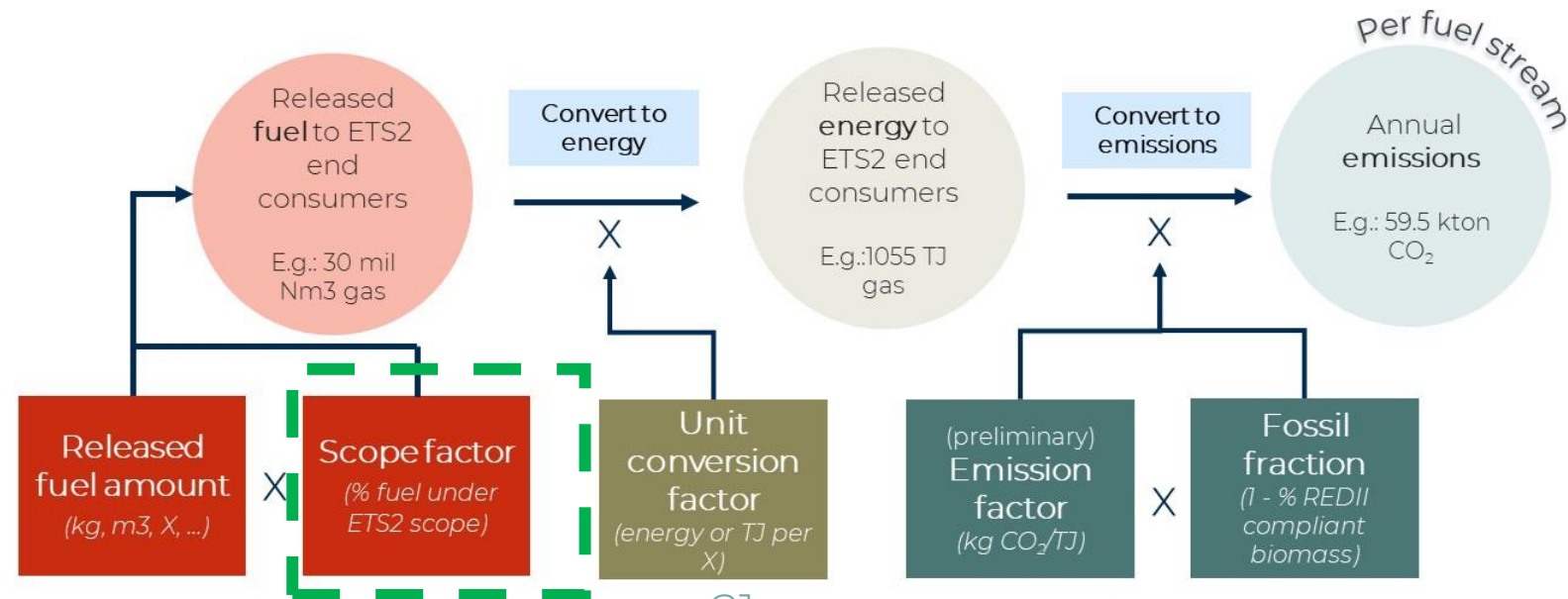
Solution: for reporting 2025 emissions on 30 April 2026, the fuel supplier can use gas consumption data for 1 June 2024 – 31 May 2025 as the estimate 2025 emissions.

- Once data for 1 June 2025 – 31 May 2026 becomes available, the difference between estimated and actual 2025 emissions is corrected in the reporting of 2026 emissions

See guidance document for a more detailed example

The scope factor

- **Scope factor** definition = share of the released fuel amounts being combusted in ETS2 sectors (listed in Annex III)
 - *In other words:* Fuel suppliers have to determine which fuel use of consumers falls under the ETS2 scope
- **The scope factor:**
 - Has a value between **0** (end consumers not covered under ETS2) and **1** (fully covered).
 - Should be calculated per **fuel stream**.
 - Is a very important but challenging step in calculating emissions under ETS2, especially if there is no direct connection with the end consumer



Which end consumers are covered under ETS2?

- **Sectors in scope are specified in Annex III** of the EU ETS Directive
 - Common Reporting Format of the IPCC 2006 guidelines used for sectoral classification
- **Overarching sectors included:** buildings, road transportation and other sectors (mainly small-scale industry not covered by ETS1)
 - There are currently no plans to opt-in additional sectors in Ireland. This will be kept under review
- **All emissions under ETS1 are excluded:** among others all (large) industry, electricity, aviation, maritime.

Road transportation



Buildings



Other sectors



Which end consumers are covered under ETS2?

Overarching sector	Included	Excluded
Buildings <i>CRF 1A4a & CRF 1A4b</i>	<ul style="list-style-type: none"> Fuel combustion in residential/commercial/institutional buildings (space heating, water heating, cooking). This includes households fuel combustion Also, off-road vehicles and machinery used in the buildings sector 	<ul style="list-style-type: none"> Any emissions from fuel combustion in agriculture, forestry, fishing and fishing industries (1A4c): <ul style="list-style-type: none"> E.g. also <20 MW combustion units (incl. CHP) in agriculture sector All ETS1 emissions: <ul style="list-style-type: none"> Energy production and manufacture industries Usually large >20MW combustion units (e.g. in large building complexes)
Road Transportation <i>CRF 1A3b</i>	<ul style="list-style-type: none"> All combustion and evaporative CO₂ emissions arising from fuel use, such as from: <ul style="list-style-type: none"> Cars Motorcycles Light-and heavy-duty vehicles <ul style="list-style-type: none"> Busses Trucks Catalyst additives 	<ul style="list-style-type: none"> Other modes of transport: <ul style="list-style-type: none"> Aviation (mostly covered by ETS1; 1A3a) Off-road vehicles in agriculture (1A4c) Railways (diesel trains) (1A3c) Maritime transport (mostly covered by ETS1; 1A3d) Military operations (1A5b)
Other sectors: Mainly (small-scale) industry <i>1A1, 1A2</i>	<ul style="list-style-type: none"> (Small-scale) industry, all energy industries (1A1) and manufacturing industries and construction (1A2) that are not in ETS1 	<ul style="list-style-type: none"> Majority (especially >20 MW installations) included in ETS1, and therefore excluded from ETS2 Non-energetic purposes excluded (e.g. process emissions, chemical reactant, reducing agent)

How to determine end consumers?

- Several specified methods to determine end consumers
- The use of specific methods depends on:
 - **Robustness, risk of fraud, accuracy**
 - Deviation allowed if proven **unreasonable costs** and/or **technical feasibility**.

Tier	Tier definition
3	Physical distinction of flows
	Chemical distinction of fuels
	Chemical marking (EU)
	ETS1 verified emission report
2	Chain-of-Custody
	Chemical marking (national)
	Indirect methods
1	Default value of 1
	Default value lower than 1

Tier 3 method details – overview

- Most large fuel streams of large regulated entities should use tier 3 methods
- Tier 3 methods might also be combined to calculate the scope factor

Tier	Tier definition	Short description
3	Physical distinction of flows	<ul style="list-style-type: none"> • Based on physical distinction of fuel flows, such as direct measurement of fuel flows in pipeline network • Evidence can be provided that end consumers fall under the ETS2 scope (Annex III list). <ul style="list-style-type: none"> • Based on legal zoning: only industrial users allowed in industrial areas • Could be partially combined with chain of custody (such as self-declaration from fuel station connected to pipeline)
	Chemical distinction of fuels	<ul style="list-style-type: none"> • Proof based on legal, technical and economic reasons, which can be proven by the chemical properties of a fuel <ul style="list-style-type: none"> • To prove the above, chemical properties should be distinct from other fuels: purity, carbon or sulphur content, calorific value, etc.
	Chemical marking (EU)	<ul style="list-style-type: none"> • Fiscal marking of gas oil and kerosene under the Euromarker Directive <ul style="list-style-type: none"> • Already common method to identify agricultural, maritime and aviation fuel use → outside ETS2 scope
	ETS1 verified emission report	Emission report of ETS1 operator proving consumption under ETS1

More details in slides on “avoiding double counting”

Tier 3 method details – example physical distinction

- Most large fuel streams of large regulated entities should use tier 3 methods
- Tier 3 methods might also be combined to calculate the scope factor

Tier	Tier definition	Short description
3	Physical distinction of flows	<ul style="list-style-type: none"> • Based on physical distinction of fuel flows, such as direct measurement of fuel flows in pipeline network • Evidence can be provided that end consumers fall under the ETS2 scope (Annex III list). <ul style="list-style-type: none"> • Based on legal zoning: only industrial users allowed in industrial areas • Could be partially combined with chain of custody (such as self-declaration from fuel station connected to pipeline)
	Chemical distinction of fuels	<ul style="list-style-type: none"> • Production of fuel can be proven by the chemical composition
	Chemical marking (EU)	<ul style="list-style-type: none"> • Fiscal marking of fuel can be proven by the chemical composition • Fuel stations only dedicated to agriculture → Directive on the use of aviation fuel use → outside ETS2 scope
	ETS1 verified emission report	Emission report of ETS1 operator proving consumption under ETS1

Examples of physical distinction:

- Natural gas pipeline to which only households are connected → **inside the ETS2 scope**
- Fuel stations only dedicated to agriculture → **outside the ETS2 scope**

Tier 3 method details – example chemical distinction

- Most large fuel streams of large regulated entities should use tier 3 methods
- Tier 3 methods might also be used by smaller entities

Examples legal, technical and economic reasons:

- **Legal:** high-sulphur content fuels for environmental reasons need desulphurisation units, which small-scale consumers outside scope ETS2 (e.g. small boats) do not have → **outside ETS2 scope**
- **Technical:** high-impurity fuels would cause damage to normal combustion units and are only used in large-scale sites covered under ETS1 → **outside ETS2 scope**
- **Economic:** High purity, high C-content coal due to its price premium is only viably used for non-energetic purposes → **outside ETS2 scope**

Tier	Tier definition	Short description
3	Physical distinction of flows	<ul style="list-style-type: none"> • Based on physical pipeline network • Evidence can be <ul style="list-style-type: none"> • Based on legal • Could be partially covered by (e.g. station connected to pipeline)
	Chemical distinction of fuels	<ul style="list-style-type: none"> • Proof based on legal, technical and economic reasons, which can be proven by the chemical properties of a fuel <ul style="list-style-type: none"> • To prove the above, chemical properties should be distinct from other fuels: purity, carbon or sulphur content, calorific value, etc.
	Chemical marking (EU)	<ul style="list-style-type: none"> • Fiscal marking of gas oil and kerosene under the Euromarker Directive <ul style="list-style-type: none"> • Already common method to identify agricultural, maritime and aviation fuel use → outside ETS2 scope
	ETS1 verified emission report	Emission report of ETS1 operator proving consumption under ETS1

Tier 2 method details – overview

Useful for RE: consumers have incentive to prove they are out of scope of the ETS2

Tier	Tier definition	Short description
2	Chain-of-custody	<ul style="list-style-type: none"> Chain of traceable contractual arrangements and invoices. Documentation starts from end consumer up the supply chain to the fuel supplier End consumers self-declare if consumption is out of scope of ETS2 Useful overlap with IT Excise Movement Control System (EMCS) In practice, only self-declaration needed from consumers <u>outside</u> of the ETS2 scope
	Chemical marking (national)	<ul style="list-style-type: none"> Same as tier 3 Euromarker marking but regulated only at national level
	Indirect methods	<ul style="list-style-type: none"> Use of indirect correlation, which allows distinction on the individual consumer level <ul style="list-style-type: none"> Consumer distinction is needed for accurate cost pass-through

Tier 2 method details – example indirect methods

Tier	Tier 2 methods
2	<div data-bbox="428 239 2010 772" style="border: 1px solid black; background-color: #fff9c4; padding: 10px;"> <p>Examples:</p> <ul style="list-style-type: none"> • Pressure levels of natural gas supplied: large customers purchase gas at higher pressure levels → large industry in scope of ETS1, hence outside scope ETS2 • Fuel consumption capacities: seasonal or day-and-night consumption patterns. Low consumption and gas peaks during winter (e.g., household) → inside scope ETS2 • Existing public databases: such as on zoning plans. <i>Similar to 'physical distinction', but then without infrastructural limitation.</i> Industrial zone → if not ETS1 (proven with emission report, then inside scope ETS2) • Other correlations can also be used, if substantiated. </div>
	<p>Chemical marking (national)</p> <ul style="list-style-type: none"> • Same as tier 3 Euromarker marking but regulated only at national level
	<p>Indirect methods</p> <ul style="list-style-type: none"> • Use of indirect correlation, which allows distinction on the individual consumer level <ul style="list-style-type: none"> • Consumer distinction is needed for accurate cost pass-through

Tier 1 method details – overview

- **Lowest tier** only allowed in few cases
- Clear preference in this case to use **default value of 1** (full coverage)
- Deviating from value of 1 only possible under specific terms

Tier	Tier definition	Short description
1	Default value of 1	Full scope coverage, if no other data can be used.
	Default value lower than 1	Can be applied if several conditions are met (see above)

More details in the Guidance Document

Avoiding double counting between ETS1 and ETS2

- ETS2 costs should not be passed through to **ETS1 operators**, since this would mean a double burden for ETS1 operators
- Member States will facilitate the efficient exchanges of information between ETS1 and ETS2, to enable the regulated entities to determine the end use of the fuel released for consumption
- Some basics that will help reduce the work for ETS2 regulated entities:
 - ETS1 annual emissions reports are considered as the highest quality method (**tier 3**)
 - ETS1 operators have to report in their annual emissions report:
 1. Their **fuel suppliers**
 2. The types and amounts of fuels acquired
 3. The amount of fuel used



More details can be found in the MRR

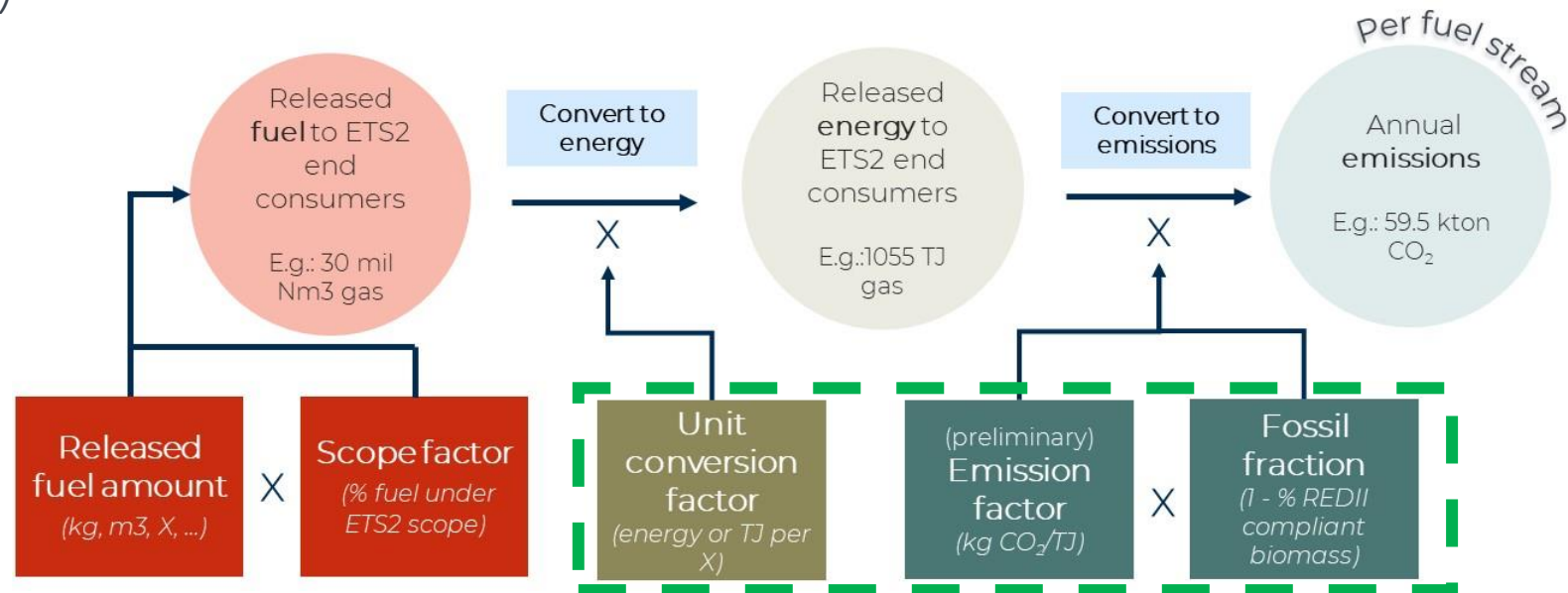
Avoiding double counting between ETS1 and ETS2

- For a regulated entity to apply a scope factor of 0 for ETS1 supply, the following is needed:
 - A **direct contractual agreement** between the ETS2 entity and the ETS1 operator, which includes an arrangement on how the fuels will be invoiced
 - E.g. a *declaration of intent to use* the fuel to ETS1 purposes
 - The ETS1 operator needs to provide to the ETS2 RE **information on their acquired and used fuel amounts** from the ETS2 RE in question
 - **Confirmation of actual use of the fuel** needs to be delivered
 - Difference between actual use and delivery will be labelled as put into stock
- If consumption by ETS1 operator cannot be confirmed, a **scope factor of 1** applies; carbon cost can then be passed through (as of 2027 when trading starts)

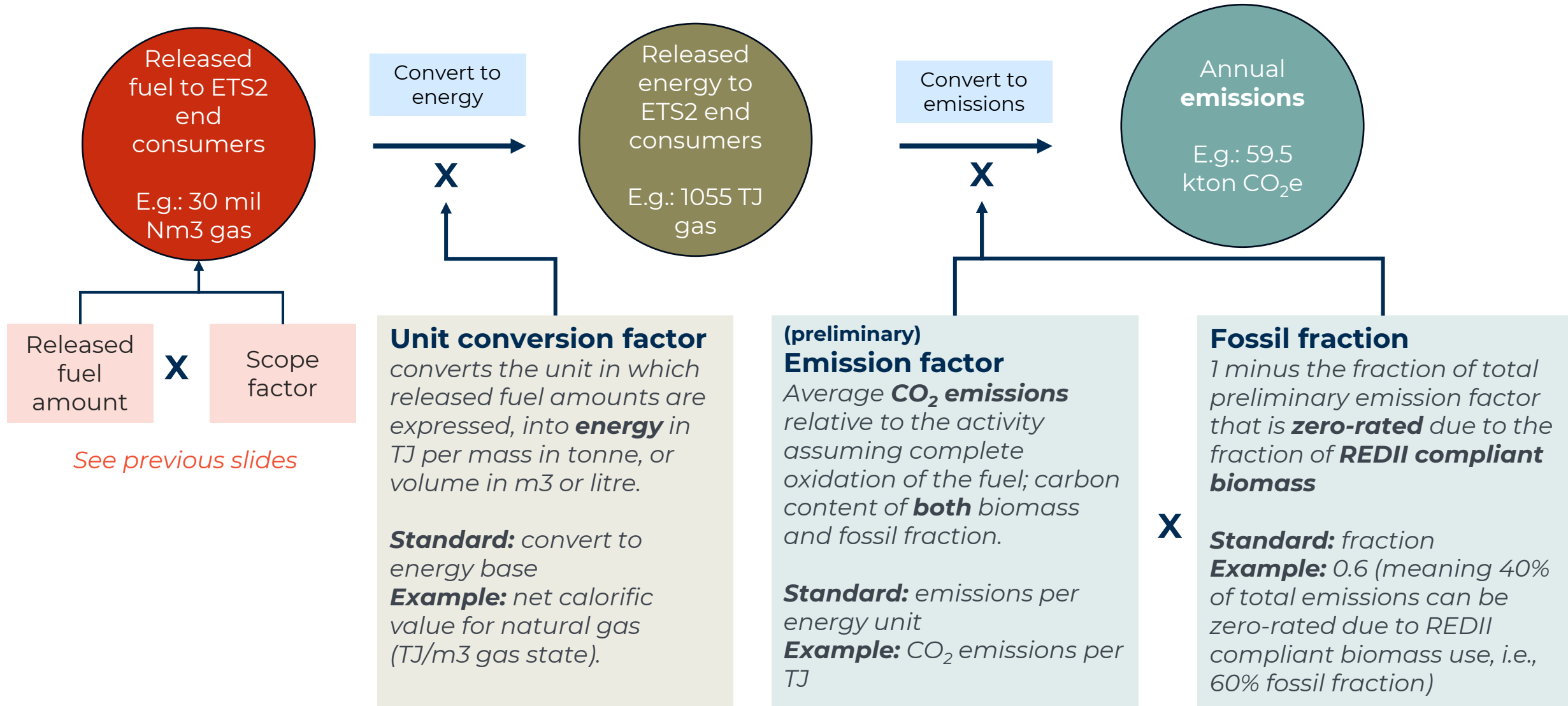
Detailed rules can be found in Article 75v and Annexes Xa and Xb of the MRR

Calculation factors – overview

- At last, **3 calculation factors are** needed to calculate the annual emissions per fuel stream: the **unit conversion factor (UCF)**, the **emission factor (EF)** and the **fossil fraction (FF)**
- These are factors needed to convert the unit (UCF), to convert to the emission per unit (EF) and to account for REDII compliant biomass (FF = 1 - % REDII compliant biomass)
- **General rules for tiers:**
 - **Lower tiers** allow the use of (internationally or nationally defined) **default values**. These are e.g. common for commercialized standard fuels or equivalents
 - **Higher tiers** generally rely on different types of **laboratory analysis**
 - *Or in some cases: mass balance (FF), empirical correlation (coal) or purchasing records (UCF)*



Detailed explanation per calculation factor



REDII compliant biomass

Biomass criteria:

- Biomass can be zero-rated (emissions) if satisfying the **sustainability** and **GHG savings** criteria of the **REDII directive***
- Same criteria as for the ETS1**

This among others means:

- For **blended biofuels**: same criteria apply as under Fuel Quality directive; information should be available
- For **biogas**: criteria only apply for >2 MW installations.
 - Demonstrate biogas use via purchase records; avoid double counting via e.g. a biogas registry
- **Solid biomass** (e.g. firewood) not in scope of ETS2, so no criteria apply

In Ireland, ETS2 Regulated entities will need to demonstrate that biomass/biofuels are in compliance with REDII in the same way that operators of ETS1 do, i.e. by using a Commission approved certification scheme.

More info can be found in [guidance document ETS2](#).

Full details and rules: [article 38\(5\) of MRR](#) + [biomass guidance document ETS1](#)

Fossil fraction

*1 minus the fraction of total preliminary emission factor that is **zero-rated** due to the fraction of **REDII compliant biomass***

Standard: fraction

Example: 0.6 (meaning 40% of total emissions can be zero-rated due to REDII compliant biomass use, i.e., 60% fossil fraction)

Quiz questions for participants – Part 1

Instructions for Slido

To access Slido on your mobile phone, either:

- Scan the QR code or
- Go to [slido.com](https://www.slido.com) and enter the passcode 3693715 or use [this link](#)





Q&A on Workshop Part 1



www.trinomics.eu



Part 2: Monitoring Plan, Annual Emissions Report, Verification and Registry



www.trinomics.eu



Monitoring Plan development



www.trinomics.eu

Purpose of the monitoring plan

Article 75b of the MRR

- “The monitoring plan shall consist of a detailed, complete and transparent documentation of the monitoring methodology of a specific regulated entity and shall contain at least the elements laid down in Annex I.”

Purpose of the MP

- Serves as a manual for the regulated entity’s (RE) monitoring and reporting tasks
- Describes methods and procedures for the annual emissions reports (AER)
- Reference for verification of the AER

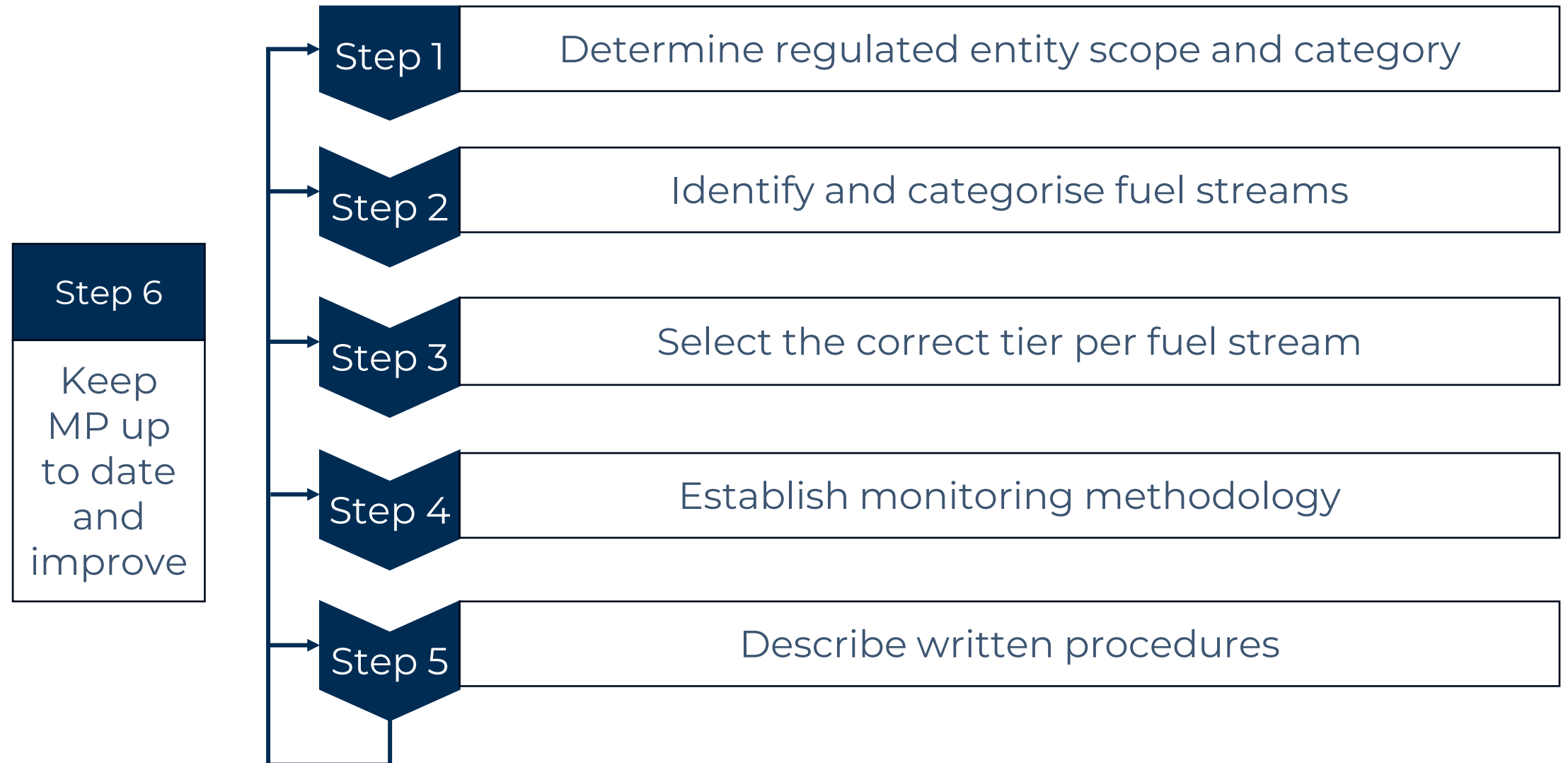
Content of an MP

- General entity information
- Fuel streams (incl. simple diagram)
- (Estimated) average annual emissions
- Monitoring methodologies for emissions
- Measurement instruments used
- Calculation procedures
- Management & control procedures
- MP modification history

Full list of required info in MRR Annex I(4)

A monitoring plan is a living document → keep up to date and improve where reasonable

Developing a monitoring plan



Step 1

Determine regulated entity scope and category

Regulated entity (RE) scope of ETS2:

- Fuel supplied to activities listed in Annex III of the ETS Directive
- Excluded from the ETS2 scope and MP (not in the Energy Taxation Directive):
 - Peat, waste used as fuel, solid biomass, charcoal from wood

Three RE categories based on emissions from total fuel supplied in MP (incl. non-ETS2):

1. Category B entity: $> 50\,000$ tCO₂ per year
2. Category A entity: $\leq 50\,000$ tCO₂ per year
3. REs with low emissions: $< 1\,000$ tCO₂ per year

For the first MP, use a conservative estimate for emissions for the next 5 years (i.e., assumptions that ensure no under-estimation of annual emissions)

Identify and categorise fuel streams

Identifying and categorising fuel streams is recommended to be done in two stages:

- 1. Split fuel streams** in such a way that the emissions of each fuel stream can be determined by one calculation approach, e.g., splitting the fuels released by:
 - Types of fuel (commercial standard fuels, other gaseous & liquid fuels, solid fuels, fuels equivalent to commercial standard fuels)
 - Physical means through which it is released (e.g., pipelines, trucks, etc.)
 - Means to end consumers (direct or via intermediaries)
 - Type of end consumer (CRF category)
 - Monitoring methodology for released fuel amounts, scope factor and calculation factors (unit conversion factor - UCF, emission factor - EF, fossil fraction - FF)
- 2. Categorise each fuel stream** as one of the following two:
 - De-minimis fuel streams: fuel streams with a combined emission of < 1 000 tCO₂
 - Major fuel stream: all other fuel streams

Fuels delivered to ETSI and REDII compliant biofuels and biomass fuels also need to be reported in the MP

Step 2

Identify and categorise fuel streams – example

Total annual emissions of fuel released =
 $81\,300\text{tCO}_2 > 50\,000\text{tCO}_2 \rightarrow$ **RE category B**

Not in ETS2, but counts towards RE category

Fuel stream	Fuel stream type	Means through which released	Means (intermediary parties)	End consumer sector (CRF)	(Estimated) emissions before scope factor	Fuel stream category
1. Natural gas 1	Other gaseous & liquid fuels	Pipelines	Direct to consumer	1A2 (<i>ETS1 industry</i>)	50 000 tCO ₂	Major
2. Natural gas 2	Other gaseous & liquid fuels	Pipelines	Direct to consumer	1A2 (<i>non-ETS1 industry</i>)	30 000 tCO ₂	Major
3. Gasoline	Commercial standard fuels	Trucks	Fuel stations	1A3b (<i>Road</i>)	800 tCO ₂	De-minimis
4. Diesel	Commercial standard fuels	Trucks	Fuel stations	1A3b (<i>Road</i>)	500 tCO ₂	Major
5. Biofuel (100% REDII-compliant)	Other gaseous & liquid fuels	Trucks	Fuel trader	1A3b (<i>Road</i>)	0 tCO ₂	De-minimis

Cannot be de-minimis as fuel stream 3 + 4 > 1 000 tCO₂

Step 3

Select the correct tier - overview

RE category	Fuel stream category	Minimum tier required	
		Scope factor	Released fuel amounts and calculation factors ¹
RE category B ($> 50\,000\ tCO_2$)	Major	Highest tier or Member State requirement	Highest tier
	De-minimis		Conservative estimates ²
RE category A ($\leq 50\,000\ tCO_2$)	Major		Tiers specified in Annex V of the MRR
	De-minimis		Conservative estimates ²
REs with low emissions ($< 1\,000\ tCO_2$)	Major		Tier 1
	De-minimis		Conservative estimates ²

¹ Tier 2a/2b for UCF and EF for commercial standard fuels or fuels meeting equivalent criteria

² Unless Tier 1 or higher is achievable without additional effort. Conservative refers to using assumptions to ensure no under-estimation of emissions.

Derogations from tier requirement possible

Step 3

Select the correct tier - reasons for derogation

Tiers lower than required allowed if one of the following can be demonstrated

- Justification needed for derogation from each tier, e.g. using Tier 1 when Tier 3 is required also needs demonstrating why Tier 2 cannot be met

For the released fuel amount, calculation factors and scope factor

1. Unreasonable costs

- If costs of meeting the required higher tier exceed benefits
- Threshold of € 4000 per year (€ 1000 for REs with low emissions)

→ Further guidance +
Excel tool available
on [COM website](#)

2. Technically not feasible

- Technical resources not available to meet the requirements
- Cannot be implemented in the required time

For scope factor only

3. Tier 3 methods not available

4. Simplified uncertainty assessment

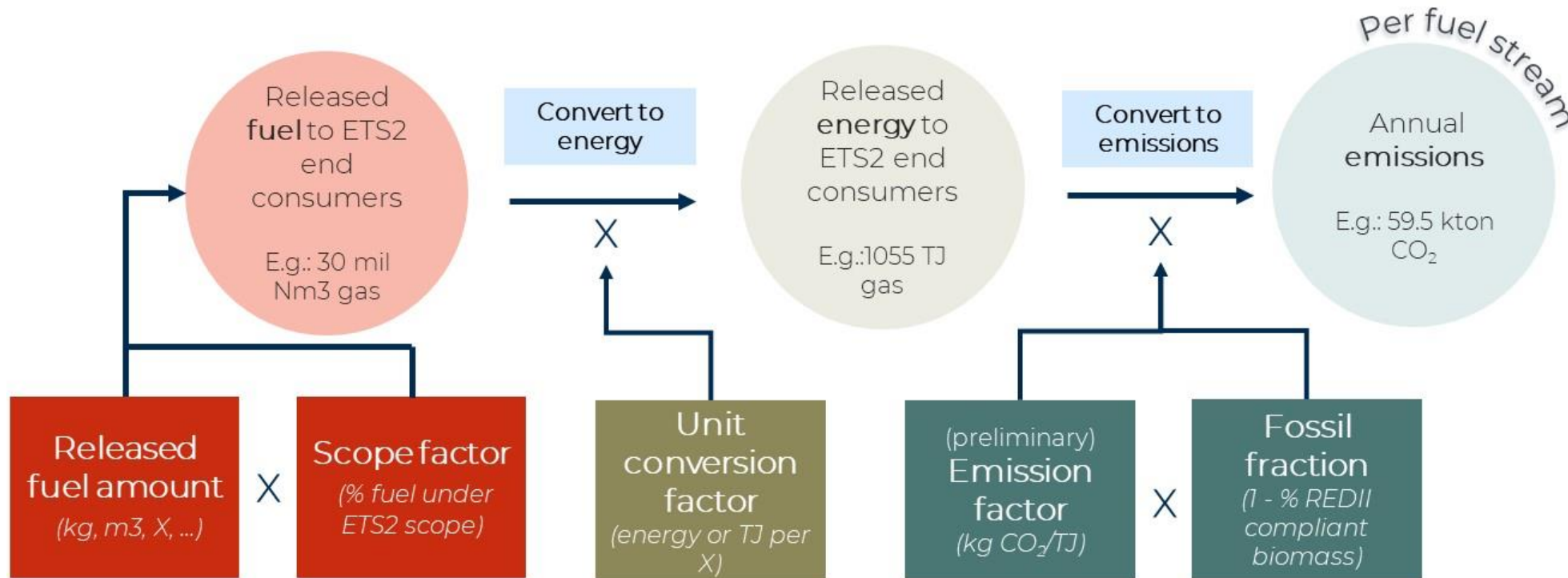
- Lower tier leads to more accurate identification of end consumers' CRF categories
- For 2024-2026, default value lower than 1 allowed (Tier 1) directly allowed following simplified uncertainty assessment

Step 4

Establish monitoring methodology

For each parameter (as explained in Part 1 of the workshop)

- List all measurement instruments and other data sources that will be used
- Establish the methodology for monitoring and the corresponding tier
- *If relevant*, work out the justification for derogation from minimum required tier



Describe written procedures – overview

Monitoring methodologies need to be supplemented with written procedures for establishing, documenting, implementing and maintaining activities under the MP

- The MP contains a brief description of the written procedures
- The full written procedures can be in other documents and not part of the MP submission, but it must be made available upon request by the CA and for verification

Written procedures required for (only if applicable):

- Methods of analyses
- Sampling plans (and revising it)
- Tracking measurement instruments
- Compliance with uncertainty assessment
- Information exchange to avoid double counting and double burden
- Biomass fuels
- Managing responsibilities and competency
- Evaluation and improvement of the MP
- Data flow and control procedures

Information needed in the MP per procedure

Title of procedure
Reference for procedure
Diagram reference (where applicable)
Brief description of procedure
Post or department responsible for the procedure and for any data generated
Location where records are kept
Name of IT system used (where applicable)
List of EN or other standards applied (where relevant)

Describe written procedures – data flow and control

RE are required to establish an effective control system for data flows:

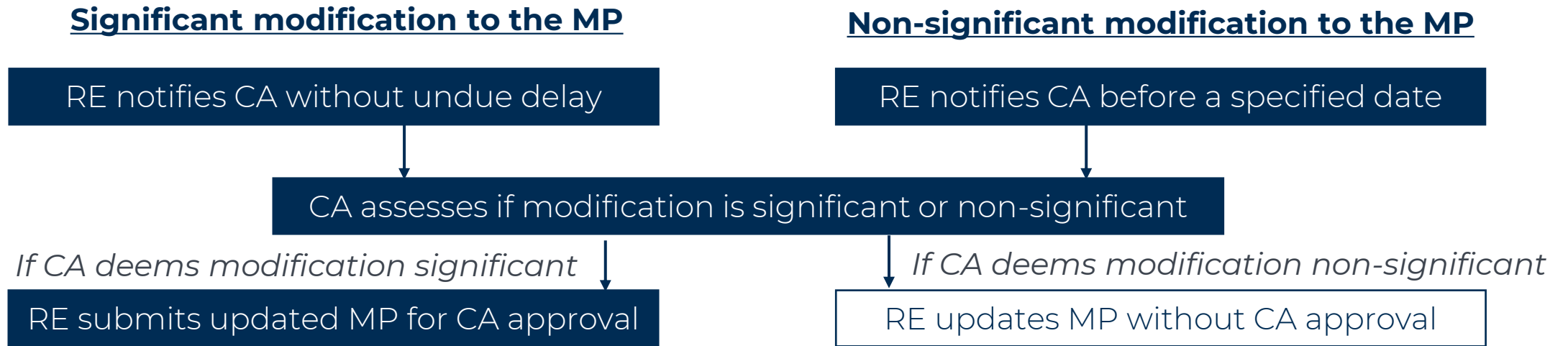
- 1. Risk assessment** (submit as supporting doc to the MP)
 - Usually assessed qualitatively for risk probability and impact
 - Can be quantified as Probability [%] x Impact [tCO₂/year]
- 2. Control activities for mitigating risks identified** (part of written procedures)
 - Management of data flow activities, incl.
 - List of primary data sources
 - Description of the relevant processing steps
 - Assessment of inherent risks and control risks
 - Quality assurance of the measurement equipment
 - Quality assurance of the IT system used for data flow activities
 - Internal reviews and validation of data
 - Corrections and corrective action
 - Closing of data gaps based conservative estimates (if applicable)
 - Keeping records and documentation

Guidance
Document 6 and 6a
+ Excel tool available
on [COM website](#)

Step 6

Keep the MP up to date and improve

The MP must always correspond to the current nature and functioning of the RE



Written procedures not affecting the description of the MP do not have to notified

Guidance will be issued at a later stage

Improvement principle applies to the MP, with RE responsibilities being

- Explore possibilities to improve the monitoring methodology (higher tiers)
- Submit an improvement report (deadline depends on RE category)
- Implement improvements where technical feasible and against reasonable costs
- Update the MP as appropriate (as per process above)

Regulated entities with low emissions

For RE with low emissions (< 1000 tCO₂ per year), several simplifications apply

- Tier 1 allowed for released fuel amounts and calculation factors
 - Unless higher accuracy can be achieved without additional effort for the RE
- No submission of the risk assessment needed when submitting the MP for approval
 - Risk assessment still recommended to be completed
- May determine released fuel amounts by using available and documented purchasing records and estimated stock changes
 - No uncertainty assessment required
- When using analyses from a non-accredited laboratory, simplified evidence on laboratory competence needed

Overall monitoring requirements usually easier to meet by allowing lower tiers



Monitoring Plan template



www.trinomics.eu

Monitoring Plan template for Ireland

- Ireland will use the EU ETS Reporting Tool for the MP submission
 - This is an online system based on the MP Excel template
- REs may assemble data in the Excel template while waiting for the online system to become available
- Exact date when the EU ETS Reporting Tool becomes available will still be communicated

Table of contents

a. Table of contents	Navigation area:	Table of contents		Next sheet	H Accounting sheet
----------------------	------------------	-----------------------------------	--	----------------------------	------------------------------------

ETS2 ANNUAL EMISSIONS MONITORING PLAN

TABLE OF CONTENTS

[TABLE OF CONTENTS](#)

[GUIDELINES AND CONDITIONS](#)

[A. Monitoring Plan versions](#)

[B. Regulated entity identification](#)

- [1 About the regulated entity](#)
- [2 Regulated entity details](#)
- [3 Contact details](#)

[C. Regulated Entity Description](#)

- [1 About the Regulated Entity](#)
- [2 Means through which fuels are released for consumption](#)
- [3 Relevant fuel streams](#)

[D. Calculation approach](#)

- [1 Applicable simplifications for monitoring](#)
- [2 Description of the calculation based approach for monitoring CO2 emissions:](#)
- [3 Specification and location of measurement systems for determining the released fuel amounts for fuel streams:](#)
- [4 List of information sources for default values of calculation factors:](#)
- [5 Laboratories and methods used for analyses for calculation factors, if relevant:](#)
- [6 Written procedures](#)

[E. Fuel Streams](#)

- [1 Fuel Stream 1:](#)
- [2 Fuel Stream 2:](#)
- [3 Fuel Stream 3:](#)
- [4 Fuel Stream 4:](#)
- [5 Fuel Stream 5:](#)

[F. Management & Control](#)

- [1 Management](#)
- [2 Data flow activities](#)
- [3 Control activities](#)
- [4 List of definitions and abbreviations used](#)
- [5 Additional information](#)
- [6 Further procedures](#)

[G. Member State specific further information](#)

[H Accounting sheet](#)

Clickable links in the template for easy navigation

Excel sheet name

[a_Contents](#)

Guidelines and conditions – rules and links

- 1 Directive 2003/87/EC (the "ETS Directive") introduces a separate ETS for buildings, road transport and additional sectors (the "ETS2") and requires regulated entities to hold a valid GHG emission permit issued by the relevant Competent Authority and to monitor and report their emissions, and have the reports verified by an independent and accredited verifier.

The Directive can be downloaded from:

<https://eur-lex.europa.eu/eli/dir/2003/87/2023-06-05>

- 2 The Monitoring and Reporting Regulation (Commission Regulation (EU) No 2018/2066, as amended, hereinafter the "MRR"), defines further requirements for monitoring and reporting. The MRR can be downloaded from:

https://eur-lex.europa.eu/eli/reg_impl/2018/2066/2022-08-28

Article 75b of the MRR sets out specific requirements for the content and submission of the monitoring plan and its updates. Article 75b outlines the importance of the Monitoring plan as follows:

The monitoring plan shall consist of a detailed, complete and transparent documentation of the monitoring methodology of a specific regulated entity and shall contain at least the elements laid down in Annex I.

Furthermore, Article 74(1) states:

Member States may require the [regulated entity] to use electronic templates or specific file formats for submission of monitoring plans and changes to the monitoring plan, as well as for submission of annual emissions reports,...verification reports and improvement reports.

Those templates or file format specifications established by the Member States shall, at least, contain the information contained in electronic templates or file format specifications published by the Commission.

- 3 This file constitutes the said template for monitoring plans of regulated entities developed by the Commission services and includes the requirements defined in Annex I as well as further requirements to assist the regulated entity in demonstrating compliance with the MRR. Under certain conditions as described below, it may have been amended to a limited extent by a Member State's competent authority.

This monitoring plan template represents the views of the Commission services at the time of publication.

This is the final version of the monitoring plan template for ETS2 regulated entities of the EU ETS. Version of 26 March 2024.

- 4 Furthermore the MRR (Article 13) allows the Member States to develop simplified and standardised monitoring plans.

Member States may allow regulated entities to use standardised or simplified monitoring plans.

For that purpose, Member States may publish templates for those monitoring plans, including the description of data flow and control procedures referred to in Article 57 and Article 58, based on the templates and guidelines published by the Commission.

If your regulated entity is eligible for such simplified and/or standardised monitoring plan in accordance with the requirements laid down in Article 13, please check with your competent authority or its website whether your Member State provides such simplified templates.

- 5 All Commission guidance documents on the Monitoring and Reporting Regulation can be found at:

https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/monitoring-reporting-and-verification-eu-ets-emissions_en

It is recommended to read the "General MRR Guidance for ETS2 entities" <will be published later>

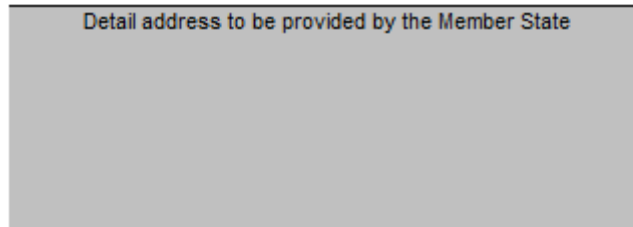
Links to
relevant EU
legislation
and
guidance
documents

Guidelines and conditions – general instructions

6 Before you use this file, please carry out the following steps:

- (a) Read carefully the instructions below for filling this template.
- (b) Identify the Competent Authority (CA) of the Member States responsible for you. Note that "Member State" here means all States which are participating in the EU ETS, not only EU Member States.
- (c) Check the CA's webpage or directly contact the CA in order to find out if you have the correct version of the template. The template version (in particular the reference file name) is clearly indicated on the cover page of this file.
- (d) Some Member States may require you to use an alternative system, such as internet-based form instead of a spreadsheet. Check your Member State requirements. In this case the CA will provide further information to you.

7 This monitoring plan must be submitted to your competent authority at the following address:



- 8 The CA may contact you to discuss modifications to your monitoring plan to ensure the accurate and verifiable monitoring and reporting of annual emissions, according to the general and specific requirements of the MRR. Notwithstanding Article 16(1) of the MRR, upon notification of approval from the CA you will use the latest approved version of the monitoring plan as the methodology to determine annual emissions and implement your data acquisition and handling activities and control activities. It will serve also as a reference for verification of your annual emissions report.
- 9 You must notify any proposals for significant modifications to the monitoring plan to the CA without undue delay. Any significant change in your monitoring methodology shall be subject to approval by the CA, as set in Article 14, 15 and 75b of the MRR. Where you can assume reasonably (in accordance with Article 15) that necessary updates of the monitoring plan are not significant, you may notify the CA of those updates jointly once per year in accordance with the deadline specified in that Article (subject to competent authority agreement).
- 10 You must implement and keep records of all modifications to the monitoring plan in accordance with Article 16 and 75b of the MRR.
- 11 Contact your CA if you need assistance to complete your Monitoring Plan. Some Member States have produced guidance documents which you may find useful.
- 12 **Confidentiality statement-** The information submitted in respect of this application may be subject to public access to information requirements, including Directive 2003/4/EC on public access to environmental information. If you consider that any information you provide in connection with your application should be treated as commercially confidential, please let your CA know. You should be aware that under the provisions Directive 2003/4/EC, the CA may be obliged to disclose information even where the applicant requests that it is kept confidential.

Checks to do before using this template

Details on where to submit the MP

What happens after MP submission

Situations to contact the CA

Guidelines and conditions - how to use this file

14 How to use this file:

This template has been developed to accommodate the minimum content of a monitoring plan required by the MRR. Regulated entities should therefore refer to the MRR and additional Member State requirements (if any) when completing.

It is recommended that you go through the file from start to end. There are a few functions which will guide you through the form which depend on previous input, such as cells changing colour if an input is not needed (see colour codes below).

In several fields you can choose from predefined inputs. For selecting from such a "drop-down list" either click with the mouse on the small arrow appearing at the right border of the cell, or press "Alt-CursorDown" when you have selected the cell. Some fields allow you to input your own text even if such drop-down list exists. This is the case when drop-down lists contain empty list entries.

Colour codes and fonts:

Black bold text:

Smaller italic text:



This is text provided by the Commission template. It should be kept as it is.

This text gives further explanations. Member States may add further explanations in MS specific versions of the template.

Yellow fields indicate mandatory inputs. However, if a topic is not relevant for the entity no input is required.

Light yellow fields indicate that an input is optional.

Green fields show automatically calculated results. Red text indicates error messages (missing data etc).

Shaded fields indicate that an input in another field makes the input here irrelevant.

Grey shaded areas should be filled by Member States before publishing customized version of the template.

Light grey areas are dedicated for navigation and hyperlinks.

15 Navigation panels on top of each sheet provide hyperlinks for quick jumps to individual input sections. The first line ("Table of contents", "Previous sheet", "Next sheet", "Accounting sheet"). Depending on the sheet, further menu items are added.

16 This template has been locked against data entry except for yellow fields. However, for transparency reasons, no password has been set. This allows for complete viewing of all formulae. When using this file for data entry, it is recommended to keep the protection in force. The sheets should only be unprotected for checking the validity of formulae. It is recommended to do this in a separate file.

17 In order to protect formulae against unintended modifications, which usually lead to wrong and misleading results, it is of utmost importance NOT TO USE the CUT & PASTE function.
If you want to move data, first COPY and PASTE them, and thereafter delete the unwanted data in the old (wrong) place.

18 Data fields have not been optimized for specific numerical and other formats. However, sheet protection has been limited so as to allow you to use your own formats. In particular, you may decide about the number of decimal places displayed. The number of places is in principle independent from the precision of the calculation. In principle the option "Precision as displayed" of MS Excel should be deactivated. For more details, consult MS Excel's "Help" function on this topic.

19 **DISCLAIMER: All formulae have been developed carefully and thoroughly. However, mistakes cannot be fully excluded. As described above, full transparency for checking the validity of calculations is ensured. Neither the authors of this file nor the European Commission can be held liable for eventual damages resulting from wrong or misleading results of the provided calculations. It is the full responsibility of the user of this file (i.e. the ETS2 regulated entity) to ensure that correct data is reported to the competent authority.**

Explanation
what each
cell colour
means

Explanation
on
automated
changes and
restrictions
when filling in

Guidelines and conditions – MS-specific guidance

- 20 In many cases in this template you are required to fill in descriptions of the regulated entity its functioning, and specific methods which you apply for monitoring. In such situations text fields are provided for your input, which may be sometimes insufficient for the information you want to enter.
- 21 In such cases please attach your information (text, formulae, reference data, diagrams and drawings) as separate files when sending them to the competent authority. You are then requested to provide a reference to that file. Please indicate in such situations the filename of the attachment. It is furthermore advisable to add the date of the last change of the document to the reference, and to include a clearly readable indicator for that date directly in the (printable) file.
- 22 The competent authority may restrict the acceptable file formats. Please ensure that you use only standard office file types such as .doc, .xls, .pdf. For further acceptable file types contact your competent authority or its website.

23 **Member State-specific guidance is listed here:**



What to do if input fields are insufficient to provide the necessary info for the CA

Additional instructions from the CA

Monitoring Plan template

MP modification history

A. Monitoring Plan versions

1 List of monitoring plan versions

This sheet is used to identify the current version of the monitoring plan. Each version of the monitoring plan must have a unique version number that does not coincide with previous phase plans, and a reference date.

Depending on the requirements of the Member State, it is possible that the document is exchanged between competent authority and regulated entity with various updates, or that the entity alone keeps track of the versions. In any case, the regulated entity should keep in his files a copy of each version of the monitoring plan.

The status of the monitoring plan at the reference date should be described in the "status" column. Possible status types include "submitted to the competent authority (CA)", "approved by the CA", "working draft" etc.

Please note that monitoring of the emissions of your entity must always be carried out in accordance with the latest approved version of the monitoring plan, except in cases where an update of the MP has already been submitted to the CA and/or is pending approval. In accordance with Article 16(1), in such situations the monitoring must be carried out in parallel using the latest approved as well as the latest MP submitted for approval.

In the "date of application" column, the date as of which the monitoring methodology as described in the plan applies, if applicable.

The first four lines show examples for how this section should be completed.

Version No	Reference date	Status at reference date	Date of application	Chapters where modifications have been made. Brief explanation of changes
1	30/06/2024	submitted to competent authority	01/01/2025	New monitoring plan for meeting the requirements of the M&R Regulation.
2	19/07/2024	returned with remarks		CA has entered some corrections for fuel streams 1 and 2. Procedures on data flows should be improved before re-submission.
3	07/08/2024	submitted to competent authority	01/01/2025	MP updated according to CA's suggestions. Furthermore added a new fuel stream No. 4 (LPG).
4	07/09/2024	approved by competent authority	01/01/2025	Approved without further changes. Entity has received paper copy together with the updated GHG permit for ensuring authentic content of the MP file returned electronically.

Fill in for each change to the MP and keep copy of each new MP version

Regulated entity identification

B. Regulated entity identification

1 About the regulated entity

- (a) **Competent Authority**
- (b) **Member State**
- (c) **Emissions trading permit number**

ETS permit number

2 Regulated entity details

- (a) **Name of the regulated entity and the site on which it is physically located (head quarters, storage facilities, etc.):**
 - i. Regulated entity name:
 - ii. Unique ID of the regulated entity:
*Please contact the competent authority for any guidance.
Include any Member State specific guidance on naming of regulated entities.*
 - iii. Excise number, if applicable:
This is the excise number pursuant to Regulation (EU) No 3892/2012 or the national excise registration and identification number issued by the relevant authority pursuant to national legislation transposing Directive 2003/96/EC, used for reporting for tax purposes pursuant to national legislation transposing Directives 2003/96/EC and (EU) 2020/262.
- (b) **Address / location of the regulated entity:**
 - i. Address Line 1:
 - ii. Address Line 2:
 - iii. City:
 - iv. State/Province/Region:
 - v. Postcode/ZIP:
 - vi. Country:

Unique ETS2 ID

Excise number

3 Contact details

Who can we contact about your monitoring plan?
It will help us to have someone who we can contact directly with any questions about your monitoring plan. The person you name should have the authority to act on behalf of the regulated entity.

- (a) **Primary contact:**
 - Title:
 - First Name:
 - Surname:
 - Job title:
 - Organisation name (if different from the regulated entity):
 - Telephone number:
 - Email address:

Who of the RE the CA should contact with questions about the MP

Regulated entity description

1 About the Regulated Entity

Please use this sheet for describing your entity. The information entered here prepares the necessary detailed inputs in the following sheets. In particular, fuel streams will be described in more detail in sheet E_FuelStreams.

(a) Description of the regulated entity and its activities:

Please provide here a brief outline description of the regulated entity, and provide a non-technical summary of the relevant organisational structure with respect to releasing fuels for consumption.

Where applicable, please provide any information on relevant links between the regulated entity's ETS2 activity and reporting for tax purposes pursuant to national legislation transposing Directives 2003/96/EC and (EU) 2020/262.

This description should provide the linking information which is needed to understand, how the information given in other parts of this template are used together for calculating the emissions. It may be as short as the given example in sheet L1_CalculationApproaches, section 2.a.

Please also include a (smaller) picture of the diagram referred to under b) in the box below.

(b) Fuel stream diagram document title and reference:

It may aid the description of activities to provide a simple diagram of the regulated entity's system boundaries, the fuel streams, the means through which the fuels are released for consumption, sampling points and metering/measurement equipment and any other parts of the regulated entity relevant for the monitoring methodology including data flow activities and control activities. Please provide here a reference (filename, date) and attach a copy when submitting this monitoring plan to your competent authority.

Where the regulated entities and the fuel streams covered correspond to entities with reporting obligations under and fuels subject to national legislation transposing Directive 2003/96/EC or 2009/30/EC, please include in that diagram the measurement points and methods used for the purposes of those acts.

Note in some cases this may be specifically requested by the competent authority as mandatory.

(c) Estimated annual emissions:

Please enter here the average annual emissions of the regulated entity BEFORE the application of the scope factor. This information is required for categorisation of the entity in accordance with Article 75e(2) of the MFR. Use the average verified annual emissions of the previous trading period data OR if this data is not available, or is inappropriate, a conservative estimate of annual average emissions, excluding CO2 from biomass meeting the RED II criteria and BEFORE the application of the scope factor.

The resulting category is used for identifying minimum tier requirements in sheet E_FuelStreams.

Annual emissions		t CO2e
Entity category in accordance with Article 75e(2)		

(d) Regulated entity with low emissions?

Entering "TRUE" here means that the regulated entity satisfies the criteria for entity with low emissions as defined by Article 75n(1).

If your selection here contradicts the number for estimated emissions under point (c) above, a message will highlight this fact. Please give an appropriate justification below.

If you are an entity with low emissions as defined by Article 75n, several simplifications for the monitoring plan apply.

(e) Estimated emissions under c) or d) based on conservative estimates?

If your input regarding being an entity with low emissions contradicts your entry in point (c), or if the figure under point (c) is not based on [verified] emissions, but on a conservative estimate for the future, please select "TRUE" and provide a short justification below.

Non-technical description of the RE activities regarding releasing fuels for consumption

File name of fuel diagram sent with MP

RE category + justification

Means through which fuels are released for consumption

2 Means through which fuels are released for consumption

(a) Means through which fuels are released for consumption (physical means of transport):

Annex 1 requires that monitoring plans include a description of the means through which the fuels are released for consumption.

The list here will be available as a drop-down list for fuel streams (section 3.a) where a reference to the relevant means is needed. Please therefore provide a short name or ID (either from drop-down list or enter free text) for easier reference, accompanied by a more detailed description.

The first two lines show examples for how this section should be completed.

Means for release MR1, MR2,...	Short name or ID	Detailed description
MR01	Pipelines	Pipelines connected to the local gas grid
MR02	Trucks	Trucks owned by trading partners
MR1		
MR2		
MR3		
MR4		
MR5		
MR6		
MR7		
MR8		
MR9		
MR10		

(b) Means through which fuels are released for consumption (intermediary parties, e.g. fuel traders):

Further to the means under a) above, please list here the relevant (intermediary) consumers downstream to which you directly supply fuels next in the supply chain, to the extent known. This could be that you are 'directly connected to end consumers' or intermediary fuel traders are involved or 'fuel stations'.

The list here will be available as a drop-down list for fuel streams (section 3.a) where a reference to the relevant means is needed. Please therefore provide a short name or ID (either from drop-down list or enter free text) for easier reference, accompanied by a more detailed description.

The first two lines show examples for how this section should be completed.

Intermediary parties, IP1, IP2,...	Short name or ID	Detailed description
IP01	Fuel stations for road transport	Fuel stations for road transport vehicles
IP02	Directly connected to end	Direct contractual arrangements with end consumers
IP1		
IP2		
IP3		
IP4		
IP5		
IP6		
IP7		
IP8		
IP9		
IP10		

Physical means through which fuels are released (e.g., pipelines, trucks, etc.)

Means through which fuels reach the end consumer (direct or via intermediaries)

Means through which fuels are released for consumption

3 Relevant fuel streams

(a) Relevant fuel streams:

Please list here all fuel streams which are to be monitored in your regulated entity. For definition of the term "fuel stream" please see the "General guidance for ETS2 regulated entities".

The fuel streams may be named like e.g. "natural gas", "heavy fuel oil",...

The drop-down list for selection of the fuel stream type (e.g. solid fuels) is required for determining the applicable minimum tiers in sheet "E_FuelStreams".

For allowing the competent authority and verifier to fully understand the situation for your entity, please select from the respective drop-down lists the means through which fuels are released for consumption: the physical means (pipelines, trucks, etc.) as well as the types of intermediary consumers (fuel traders, etc.), as provided under sections 2.a and 2.b. If more than one means is relevant, please enter e.g. "MFI1, MFI2", "IP1, IP2", respectively.

The first two lines show examples for how this section should be completed.

Fuel stream ref. F1, F2,....	Fuel stream name	Fuel stream type	Means through which released for consumption	Intermediary party through which released for
F01	Gasoline	Commercial standard fuels	MFI1: Pipelines	IP1: Fuel stations
F02	Heavy fuel oil	Other gaseous & liquid fuels	MFI2: Trucks	IP2: Directly connected to end
F1				
F2				
F3				
F4				
F5				

Split fuels released for consumption into fuel streams

(b) Estimated emissions and fuel stream categories:

Please enter for each fuel stream the estimated emissions (fossil and non-sustainable biomass, but BEFORE application of the scope factor), and select an appropriate fuel stream category.

Data for the fuel stream references and the fuel stream full name (fuel stream name and fuel stream type) will be taken from point (a) above automatically.

Background: Pursuant to Article 17(3) you can categorise each fuel stream as "major" or "de-minimis".

- "de-minimis" fuel streams are one or a group of fuel streams that jointly correspond to less than 1 000 tonnes of fossil CO2 per year
- "major" fuel streams are all fuel streams not classified as "minor" or "de-minimis"

To help you selecting an appropriate category, the possible category will be displayed automatically for each fuel stream in the green field.

Please note that this automatic display only provides information about the possible category for each fuel stream as a stand-alone. If any of the thresholds explained above are exceeded, the possible categories will not change but an error message will occur. In that case please select at least a category one level higher.

After you have completed entering the estimated emissions for all fuel streams the sum will be compared to the total annual emissions entered under 1(c). above. If the sum of estimated emissions differs by more than 5% of total annual emissions an automatic error message will be displayed.

Fuel stream ref. F1, F2,....	Fuel stream full name (name + type)	Estimated emissions [t CO2e / year]	Possible category	Selected category
F01	Raw meal; Cement clinker; Kiln input based (Method A)	38,000	Major	Major
F02	Heavy fuel oil; Combustion; Other gaseous & liquid fuels	19,500	Major	Major

Categorise the fuel streams based on emissions

Automatic checks on de-minimis and total emissions

Error message (sum of de-minimis fuel streams threshold):

Error message (Total Emissions, difference to C.1.c):

Applicable simplifications for monitoring

Automatically filled in based on RE category

1 Applicable simplifications for monitoring

This section provides an overview of the simplifications that apply for monitoring emissions and corresponding sections in the monitoring plan that require completion.

(a) Regulated entity with low emissions?

This information is taken automatically from entries in C.1.d. If applicable, simplified tier requirements will be shown in sheet E and entities with low emissions are not required to submit the result of the risk assessment to the competent authority (F.3.i).

(b) Measurements methods in accordance with ETD/ED regime and owned by a trading partner?

Please enter TRUE here if ALL of the following conditions are satisfied:

- you are an entity that is covered by the Energy Taxation / Excise Duty (ETD/ED) regime, AND
- the same measurement instruments are used as under the ETD/ED, AND
- all of the relevant measuring instruments are owned by a the trading partner, i.e. not by you.

If this is relevant, entries in section D.2.b below will become optional.

(c) Only commercial standard fuels or fuels meeting equivalent criteria?

This information is taken automatically from entries in C.3.a. If applicable, simplified tier requirements will be shown in sheet E and entries related to laboratories used under D.2.d will become optional.

Please note that further simplifications may apply depending on the category of the regulated entity or fuel stream, which will be shown correspondingly in sheet E for the relevant fuels streams, e.g. where lower tier requirements apply.

Furthermore, where the regulated entity is also covered by the ETD/ED regime the description of each procedure under D.3 and sheet F may be simplified and refer to the corresponding procedures under the ETD/ED, where applicable.

Fill in if ETD/ED regime is applicable and measurement instruments owned by the trading partner

Automatically filled in based on fuel stream types

Calculation approaches and data sources

2 Calculation: Details which are needed for further input in the next sheet

(a) Description of the calculation based approach for monitoring CO2 emissions:

Please provide a concise description of the calculation approach, including formulae, used to determine your annual CO2 emissions in the text box below. The description should be sufficient for demonstrating that neither data gaps nor double counting of emissions occur.

--

(b) Specification and location of measurement systems for determining the released fuel amounts for fuel streams:

Please describe the specification and location of the measurement systems to be used for fuel streams.

Ref	Type of measuring instrument	location (internal ID)	Measurement range			Specified uncertainty (95%, +/-%)	Typical use range	
			unit	lower end	upper end		lower end	upper end
M11								
M12								
M13								

(c) List of information sources for default values of calculation factors:

Please list all relevant information sources, from which you derive default values for calculation factors according to Article 31 and Article 75k.

Information Source Ref.	Description of Information source
IS1	
IS2	
IS3	
IS4	
IS5	

(d) Laboratories and methods used for analyses for calculation factors, if relevant:

Please list the methods to be used for analysing fuels for the determination of all calculation factors where applicable due to the selected tier. Where the laboratory is not accredited according to EN ISO/IEC 17025, you have to provide evidence that the laboratory is technically competent in accordance with Article 34. For this purpose please provide reference to an attached document.

Lab Ref	Name of laboratory	Parameter	Method of analysis (include procedure reference and brief description of method)	Is lab EN ISO/IEC 17025 accredited for this analysis?	If no, reference the evidence to be submitted
L1					
L2					
L3					
L4					
L5					

Describe calculation approach + formulae used

Specify each measurement instruments incl. unique ID

List info sources used for default calculation factors

List laboratories and analysis methods used for calculation factors

Written procedures related to calculation approaches

3 Written procedures

(a) Description of the written procedures for analyses:

Please provide details about the written procedures for the analyses listed above in section 2.(e). The description should cover the essential parameters and operations performed. Where a number of procedures are used for a similar purpose but for different fuel streams or parameters, please provide details of an overarching procedure which covers the common elements and quality assurance of the applied methods.

You may then either give here references to individual "sub-procedures", or you may provide details of each relevant procedure separately. For the latter, please use the "add procedure" button at the end of this sheet. However, please ensure that clear reference to the appropriate (sub-)procedure can be given in section E.(1).f.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

Brief description + reference to external documents with the full written procedures

Written procedures to fill in sheet D

- Methods of analyses
- Sampling plans
- Revising the appropriateness of sampling plans
- Tracking measurement instruments
- Compliance with uncertainty assessment
- Information exchange to avoid double counting and double burden
- Biomass fuel compliance with REDII criteria on sustainability and GHG saving
- Determining biogas quantities
- Other relevant procedures

Fuel streams – released fuel amounts

1 Details on the applied tiers for each parameter

F1 Fuel Stream 1:

Fuel stream type:	
Means through which released:	
Means (intermediary parties):	

Automatically filled in from Sheet C

Released fuel amounts:

(a) Determination method for released fuel amounts:

i. Determination method pursuant to Article 75j(1):

--

(a): Methods consistent with ETD/ED regime

Pursuant to Article 75j(1) the released fuel amounts of a fuel stream can be determined (a) by measurement methods used for the purposes of the energy taxation regime, where the entity is the same as under the ETS2 and where measurements are subject to national legal metrological control, (b) by batch metering, or (c) by continual metering.

ii. Reference to procedure used for determining annual amounts pursuant to Article 75j(2), if applicable:

--

Pursuant to Article 75j(2) the released fuel amounts, where it is technically not feasible or would incur unreasonable costs to determine released fuel amounts for the entire calendar year, the regulated entity may choose the next most appropriate day to separate one monitoring year from the subsequent year, and reconcile accordingly to the calendar year required. Please describe here the underlying methods and calculations, including the use of cut-off dates and how it is ensured that any estimates do not lead to gaps or double counting upon reconciliation.

iii. Instrument under control of:

--

Regulated entity

Please choose "Regulated entity" if the measurement instrument is under your own control and "Trade partner" if it is outside your own control. If more than one instrument is relevant, please choose "trade partner" if this is the case for at least one of the instruments used for this fuel streams. In this case use the comment box under point (b) below to identify which instruments are under the entity's control and which ones are under the trading partner's control.

Select method for determining released fuel amounts

(b) Measurement instruments used:

MI01	MI03				

Please select here one or more from the instruments which you have defined in section E.2.b. If more than 6 measurement instruments are used for this fuel stream, e.g. if the p/T compensation is done using separate instruments, please use the comment box below for further description.

Comment / Description of approach, if several instruments used:

--

List measurement instrument used for this fuel stream

(c) Tiers for released fuel amounts

i. Released fuel amounts units:

--

ii. Released fuel amounts tier required:

--

iii. Released fuel amounts tier applied:

--

iv. Uncertainty achieved:

--

Comment:

--

Specify applied tier

Fuel streams – scope and calculation factors

Scope factor:

(d) Scope factor	required tier	applied tier	full text for applied tier
i. Scope factor tier			
ii. Scope factor main method			
iii. Scope factor detailed method description:			
iv. Description of the method of identifying and keeping track of end consumers' CRF categories			

Calculation factors:

(e) Applied tiers for calculation factors:

calculation factor	required tier	applied tier	full text for applied tier
i. Unit conversion factor			
ii. Emission factor (preliminary)			
iii. Biomass fraction (if applicable)			

(f) Details for calculation factors:

calculation factor	applied tier	default value	Unit	source ref	analysis ref	sampling ref	Analysis frequency
i. Unit conversion factor							
ii. Emission factor (preliminary)							
vi. Biomass fraction (if applicable)			%				

Comments and explanations:

(g) Further comments or justification if required tiers are not applied:

Specify applied scope factor tier and describe the approach

Specify applied tiers for the calculation factor tiers and references to data sources

Justify derogation from minimum required tiers for each parameter

Management and responsibilities

1 Management

(a) Please identify the responsibilities for monitoring and reporting emissions, in accordance with Article 62 of the MRR.

Job title/post	Responsibilities

(b) Please provide details about the procedure used for managing the assignment of responsibilities for monitoring and reporting within the regulated entity and for managing the competencies of responsible personnel, in accordance with Article 59(3)(c) of the MRR.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

(c) Please provide details about the procedure used for regular evaluation of the monitoring plan's appropriateness, covering in particular any potential measures for the improvement of the monitoring methodology.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

(d) Deadline for the next improvement report pursuant to Article 75q(1), if relevant

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

Specify responsibilities for monitoring and reporting emissions and procedure to assign these responsibilities

Specify procedures for evaluating and improving the MP + deadline for the next required MP improvement (if applicable)

Monitoring Plan template

Data flow activities

2 Data flow activities

(a) Please provide details about the procedures used to manage data flow activities in accordance with Article 58 of the MRR.

Where a number of procedures are used, please provide details of an overarching procedure which covers the main steps of data flow activities along with a diagram showing how the data management procedures link together (please reference this diagram below and include when submitting your monitoring plan). Alternatively please provide details of additional relevant procedures on a separate sheet.

Under "Description of the relevant processing steps", please identify each step in the data flow from primary data to annual emissions which reflect the sequence and interaction between data flow activities and include the formulas and data used to determine emissions from the primary data. Include details of any relevant electronic data processing and storage systems and other inputs (including manual inputs) and confirm how outputs of data flow activities are recorded.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	
List of primary data sources	
Description of the relevant processing steps for each specific data flow activity	

Brief description + reference to external documents with the full written procedures

Additional required info on primary data sources and relevant processing steps for each data flow activity

Monitoring Plan template

Control activities

3 Control activities

- (a) Please provide details about the procedures used to assess inherent risks and control risks in accordance with Article 59 of the MRR.
The brief description should identify how the assessments of inherent risks and control risks are undertaken when establishing an effective control system.

Title of procedure	
Reference for procedure	
Diagram reference (where applicable)	
Brief description of procedure	
Post or department responsible for the procedure and for any data generated	
Location where records are kept	
Name of IT system used (where applicable).	
List of EN or other standards applied (where relevant)	

Brief description + reference to external documents with the full written procedures

Written procedures to fill in sheet F

- Assessment of inherent risks and control risks
- Quality assurance of the measurement equipment
- Quality assurance of the IT system used for data flow activities
- Internal reviews and validation of data
- Corrections and corrective action
- Closing of data gaps based conservative estimates (if applicable)
- Keeping records and documentation

Other information requested

3 Control activities

- (i) Please provide the reference to the documented results of a risk assessment that demonstrates that the control activities and procedures are commensurate with the risks identified in accordance with Article 75b(2) of the MRR. (Note: The requirement to submit the risk assessment to the CA does not apply to entities with low emissions, in accordance with Article 75n(2) of the MRR)

Please reference the file/document containing the risk assessment in the box below.

- (j) Does your organisation have a documented environmental management system?

- (k) If the Environmental Management System is certified by an accredited organisation, please specify to which standard e.g. ISO14001, EMAS, etc.

4 List of definitions and abbreviations used

- (a) Please list any abbreviations, acronyms or definitions that you have used in completing this monitoring plan.

Abbreviation	Definition

5 Additional information

- (a) If you are providing any other information that you wish us to take into account in considering your plan, tell us here. Please provide this information in an electronic format wherever possible. You can provide information as Microsoft Word, Excel, or Adobe Acrobat formats.

You are advised to avoid supplying non-relevant information as it can slow down the approval. Additional documentation provided should be clearly referenced, and the file name / reference number provided below. If needed, check with your competent authority

Please provide file name(s) (if in an electronic format) or document reference number(s) (if hard copy) below:

File name/Reference	Document description

Refer to the risk assessment to be submitted with the MP

Specify the presence of an EMS

List abbreviations used

Specify other documents part of the MP submission



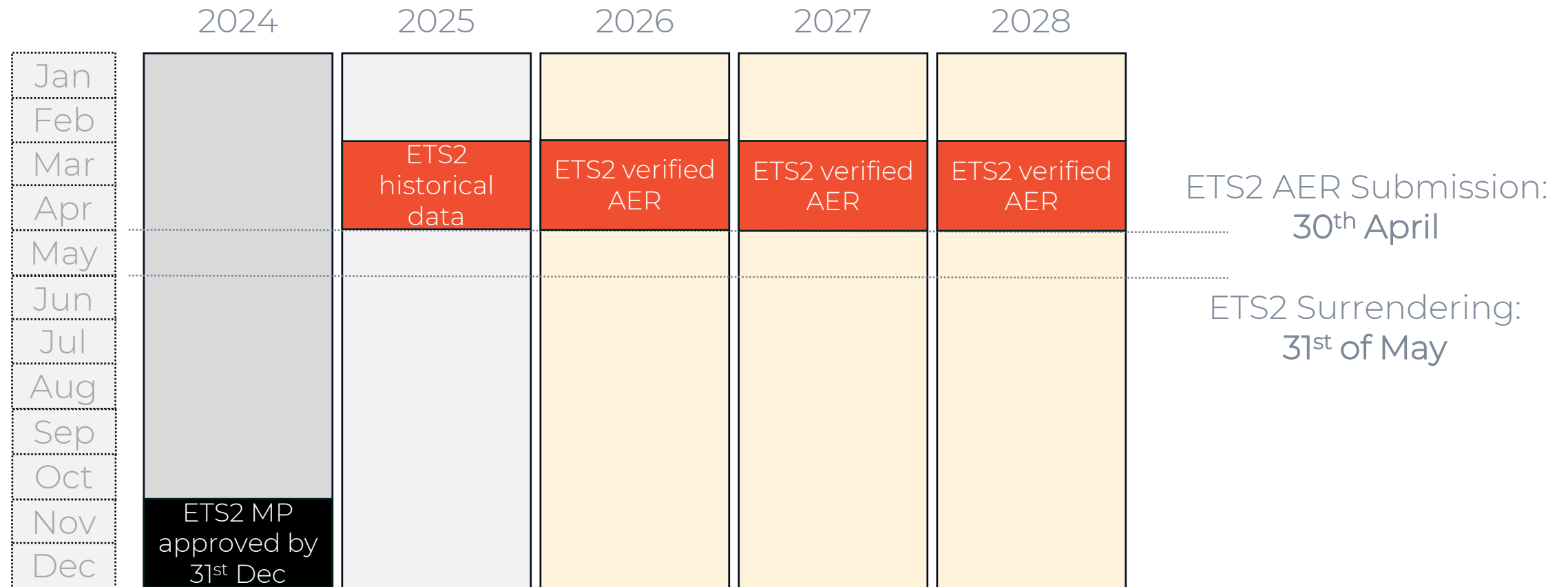
Annual emissions report introduction



www.trinomics.eu

Timing of measurement

- Regulated entity submits by 30 April of each year an emissions verified report that covers the annual emissions of the reporting period.
- The annual emissions report shall at least contain the information listed in MRR Annex X and Xb.



Minimum content of Annual Emission Reports

Information listed in Annex X of the MRR to be included in Annual Emission Reports

(1) Data identifying the regulated entity	(6) Information for all fuel streams
(2) Name and address of the verifier of the report	(7) Information to be reported as memo items
(3) The reporting year	(8) Where data gaps have occurred and have been closed by surrogate data in accordance with Article 66(1)
(4) Reference to and version number of the latest approved monitoring plan and the date from which it is applicable, as well as reference to and version number of any other monitoring plans relevant for the reporting year	(9) Any other changes in the regulated entity during the reporting period with relevance for that regulated entity's greenhouse gas emissions during the reporting year
(5) Relevant changes in the operations of a regulated entity and changes as well as temporary deviations that occurred during the reporting period to the monitoring plan approved by the competent authority	

Minimum content of Annual Emission Reports

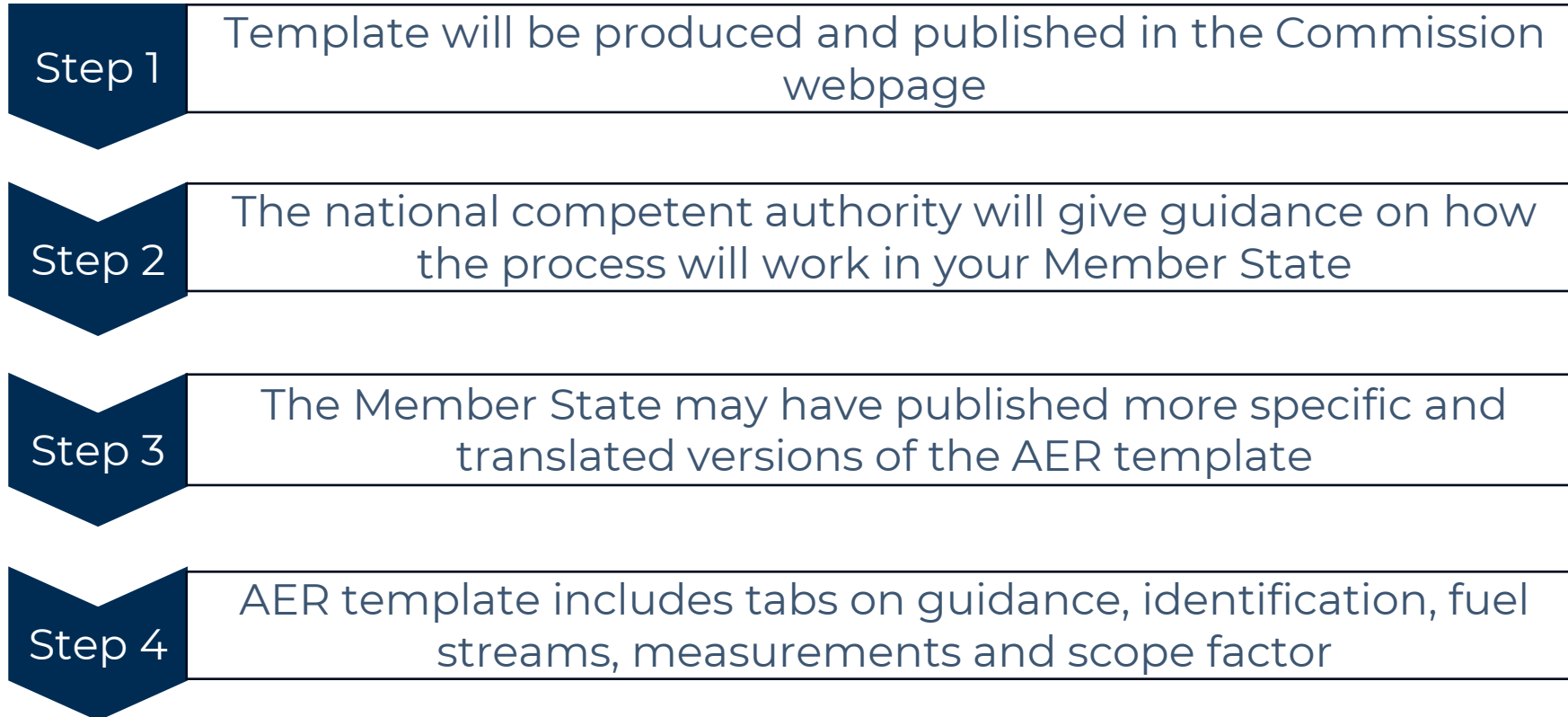
Additional information included in Annex Xb of the Implementing Regulation (EU) 2023/2122

(1) Name, address and unique permit number of the operator and, where relevant, the aircraft operator and shipping company, **to whom the fuel is released**. In other cases where the fuel is meant for end use in sectors covered by Annex I to Directive 2003/87/EC the regulated entity shall submit, where available, a list of all consumers of fuels, from direct buyer down to the operator, including their name, address and unique permit number, where this would not cause disproportionate administrative burden;

(2) **the types and amounts of fuels sold to each buyer** referred to in point (a) during the relevant reporting period.

(3) **The amount of fuel used for activities** referred to in Annex I to Directive 2003/87/EC for each buyer referred to in point (a) during the relevant reporting period.

Annual Emission Report template – next steps



There will be a designated Commission webpage available at a later date



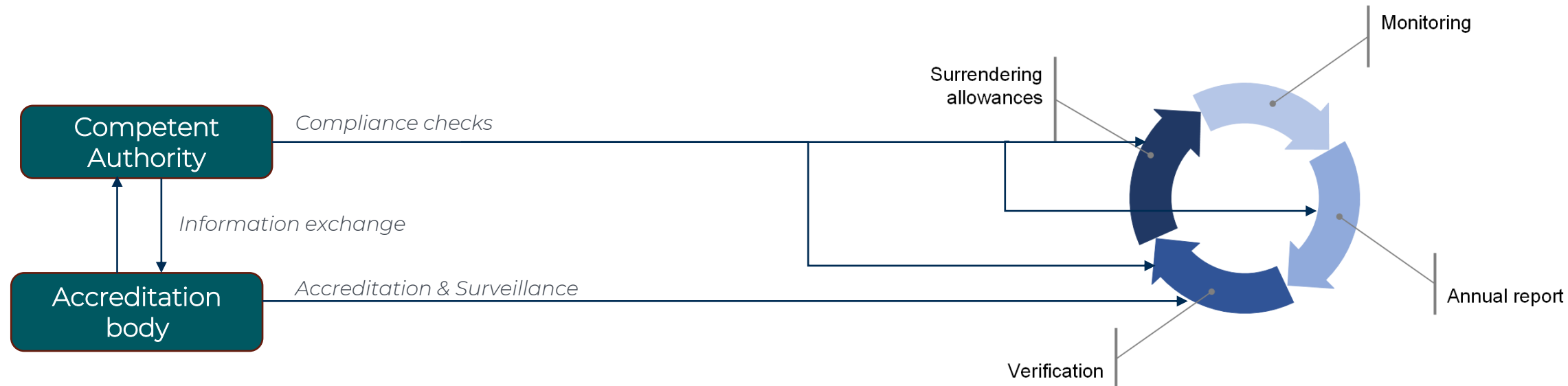
Verification



www.trinomics.eu

General requirements

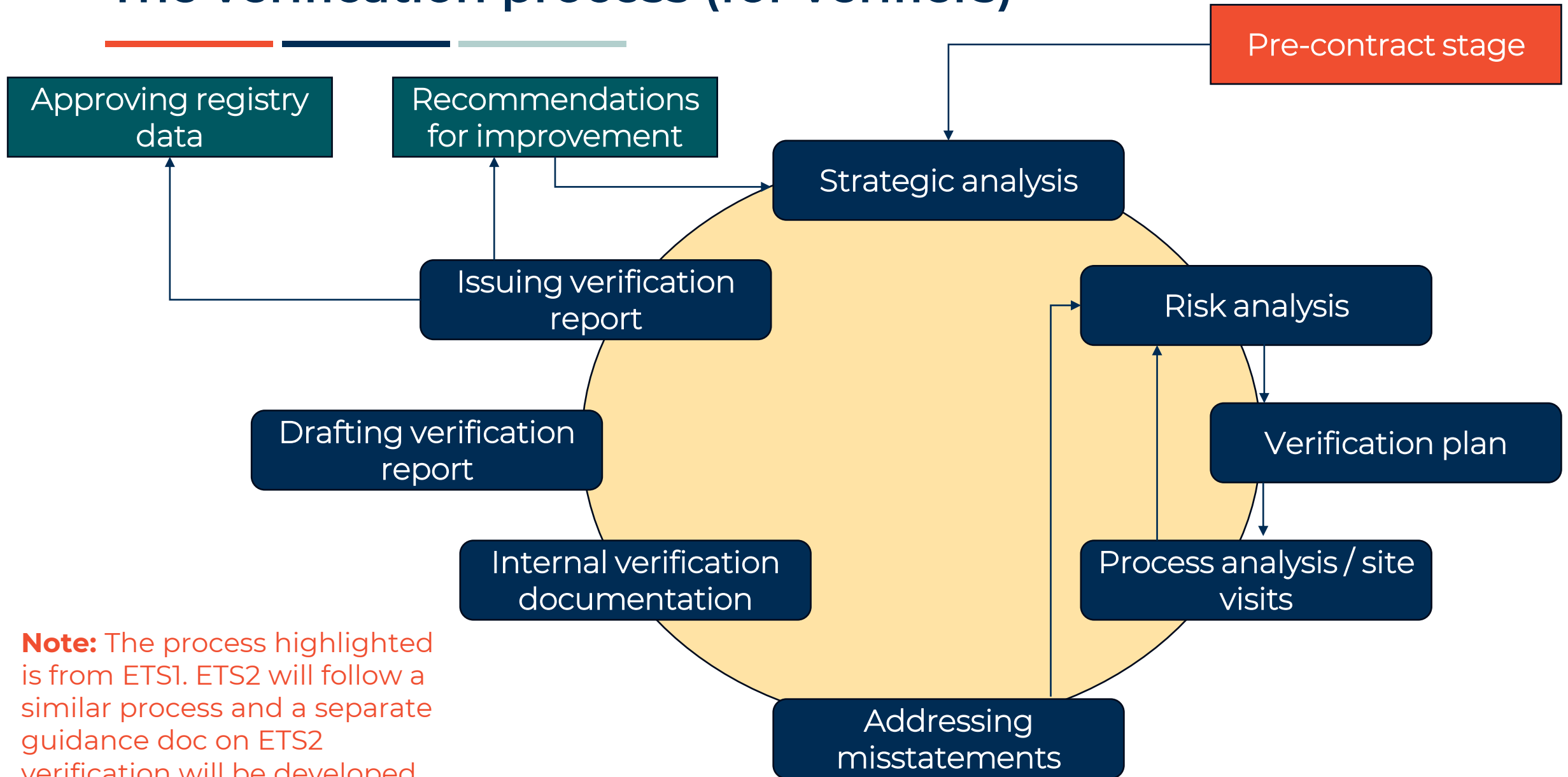
- **Requirement from 2026 that AER is verified**
 - Regulated entities (REs) to submit first verified report by 30th April 2026 (date may vary by Member State) on the emissions concerning the reporting year 2025
- **Simplified procedures for small emitters (See MRR)**
 - There is the option for MS to use simplified monitoring plans
 - REs are exempted from submitting an improvement report on how to address recommendations of improvements made by the verifier in the verification report
 - Site visits can be waived under specific conditions



What to consider when contracting a verifier

1	<p>Where to find accredited verifier?</p> <p>Information is shared by the National Accreditation Bodies (NAB) with the CA of the Member State in which the verifier is accredited and the Member States in which the verifier is carrying out the verification.</p>
2	<p>How to ensure competence and impartiality of verifier?</p> <p>Verifiers must meet the requirements laid down in Chapter III AVR and the requirements in EN ISO 140655, the harmonized standard prescribed in the AVR for the verification of operator's reports.</p>
3	<p>Who is responsible for verification costs?</p> <p>Regulated entity responsible for costs</p>
4	<p>Timing of verification?</p> <p>Regarding the process of contracting a verifier should occur long before the deadline. Verified emissions reports will be required for the AER submitted by 30 April 2026 (for 2025 emissions).</p>

The verification process (for verifiers)



Note: The process highlighted is from ETS1. ETS2 will follow a similar process and a separate guidance doc on ETS2 verification will be developed

Trinomics 

Registry



www.trinomics.eu

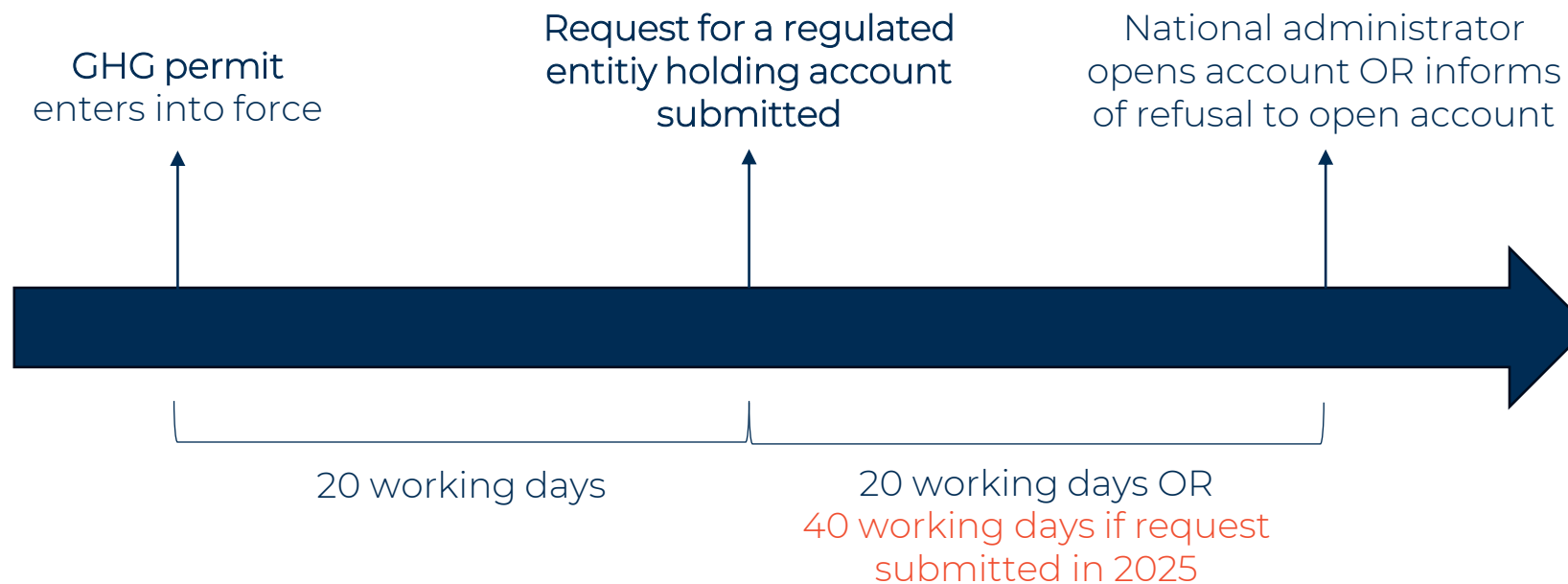
Purpose of Union Registry

- The EU ETS Registry (Union Registry) serves as a compliance tool for ETS2 Participants.
- It is central to the annual compliance cycle.
- The Union Registry works similarly to internet banking
- Companies participating in EU ETS2 **must open a Regulated Entity Holding Account (REHA) on the Union Registry** – mandatory obligation as per condition of their GHG Permit.
- REHA is used:
 - To enter their Verified Emissions (VE) Figure for Year X by **30th April** Year X+1;
 - To hold emission allowances they have acquired;
 - To surrender allowances to account for their VE Figure for Year X by **31st May** Year X+1;
 - To transfer their emission allowances to other accounts via account transactions.

Opening a Union Registry account (1)

- Each Regulated Entity has only one Regulated Entity Holding Account (REHA)
- To open a REHA, companies must submit **complete** application information to the National Administrator (NA) of the Union Registry.
- Ireland's NA contacted via ETRAAdmin@epa.ie
- Contact details of the NA in other Member States found here →

Information on national contact points and registries [COM website](http://COM.website)



Opening a Union Registry account (2)

- **REHA application requirements detailed in EU Registry Regulation - ANNEX VIIb of [Delegated Regulation \(EU\) 2019/1122 \(consolidated text\)](#)**
 - REHA application guidance reflecting these requirements will be developed by Ireland's NA.
- REHA application requirements include :
 - Authorised Representative (AR) details – the ARs are the account users on the REHA. **Two ARs** are required as a minimum to open and effectively operate the REHA.
 - Evidentiary requirements of ARs – incl. evidence of identity, address of permanent residence & criminal record.
 - Details of the RE-mainly detail within the GHG Permit
 - If the RE is part of a group, documentation on group structure is required
- NA may ask for additional information
- Each ARs will need to create a **Unique Registry Identifier (URID)** & an **EU LOGIN** profile.
- EU LOGIN is an authentication portal used by the EU for several applications including the Union Registry.

EU LOGIN – required by users of the ERT and of the UR

NB! Each user has only one EU login account. If you have accounts in more than one national parts of the registry (e.g. NL and DE), you still need only one EU Login account

1. Go to ECAS <https://webgate.ec.europa.eu/cas/> and click 'Create an account'
2. Fill in all your personal details & click 'Create an account'
3. You will receive an e-mail including your username and a link to create your password

A mobile device needs to be added to your EU Login account - essential to get access to the registry

1. Go to "My account"
2. Click 'Manage my mobile devices' and choose 'Add a mobile device'

[Please refer to a user manual for more detailed guidance](#)

Sign in to continue

Enter your e-mail address or unique identifier

[Create an account](#) **Next >**

Or

If you do not wish to create an EU Login account, you can sign in by using one of the following third-party sign-in options ("Sign-in Service"). [Read more](#)

Successful login

You are now logged in to EU Login.

To stop the automatic single sign-on, click [Logout](#) or close all browser windows.

(External)

- Change password
- My Account
- Logout

Quiz questions for participants – Part 2

Instructions for Slido

To access Slido on your mobile phone, either:

- Scan the QR code or
- Go to [slido.com](https://www.slido.com) and enter the passcode 3693715 or use [this link](#)



Feedback survey and Q&A Workshop Part 2

Thank you for your attention and active participation in this workshop!

Please scan the QR code to below to provide feedback on the presentation and topics covered or click on the link: [Workshop survey Ireland stakeholder outreach on the implementation of ETS2](#)



Other data sources and guidance



European
Commission

Topic	Links
General ETS2 Guidance	General guidance for ETS2 regulated Entities
ETS2 Monitoring Plan	Monitoring plan for the emissions of regulated entities
ETS2: buildings, road transport and additional sectors	ETS2 : buildings, road transport and additional sectors - European Commission (europa.eu) Implementing ETS2 for buildings, road transport and additional sectors (presentation)
ETS Directive (legal basis)	ETS Directive (2003/87/EC)
Monitoring and Reporting	Monitoring and Reporting Regulation (MRR)

Other data sources and guidance - National

National Competent Authority:

[EPA webpages dedicated to ETS2](#)

Other links of national relevance will be given on the above.

List of abbreviations

Acronym	Key term
AER	Annual Emissions Report
CO ₂	Carbon dioxide
CRF	Common Reporting Format (end consumer sector)
EF	Emissions Factor
ETD	Energy Taxation Directive (2003/96/EC)
ETS	Emissions Trading System
MP	Monitoring Plan
MRR	Monitoring and Reporting Regulation
MRV	Monitoring, Reporting and Verification
NCA	National Competent Authority
RE	Regulated Entity
RED	Renewable Energy Directive
TJ	Terajoule (energy measurement)
UCF	Unit Conversion Factor

List of definitions

- **ETS2 scope** refers to activities covered by ETS2, in relation to fuels released for consumptions which are used for combustion in the buildings (CRF 1A4a & 1A4b), road transport (CRF 1A3b) and additional sectors (CRF 1A1 & 1A2). Detailed information on activities covered can be found in Annex III of Directive 2003/87/EC
 - **Common Reporting Format (CRF) categories** (used for compiling national GHG inventories following the IPCC Guidelines) are used to identify sectors in which if fuel is combusted, it falls in ETS2 scope
- **Fuel streams** refer to all the types of fuels which a regulated entity releases for consumption, for which the emissions associated with the eventual consumption have to be monitored when applying the calculation-based approach
 - De-minimis fuel stream – smaller quantity fuel streams (<1000 tonnes CO₂ per year)
 - Major fuel stream – all other fuel streams
- **Calculation factors**, mean net calorific value, emission factor, preliminary emission factor, oxidation factor, conversion factor, carbon content or biomass fraction;
 - **Emissions factor**, means the average emission rate of a GHG relative to the activity data of a source stream assuming complete oxidation for combustion and complete conversion for all other chemical reactions;
 - **Unit conversion factor**, means the ratio of carbon emitted as CO₂ to the total carbon contained in the source stream before the emitting process takes place, expressed as a fraction, considering CO emitted to the atmosphere as the molar equivalent amount of CO₂
- **Scope factor** is a dimensionless factor between 0 (all fuel released consumed outside ETS2 scope) and 1 (all fuel released for consumption within ETS2 scope). The determination of this factor involves the ability to identify the relevant category of end consumers
- **Fossil fraction** is a dimensionless fraction that takes into account the fossil fraction of carbon in fuels both have fractions of carbon arising from biogenic origin and have biomass components compliant with RED II
- **Released fuel amount**, means the amount of fuel released for consumption. Where applicable, this will correspond to the total fuel amount for each fuel stream released through the excise duty point



Further questions?
Mail the NCA: ets2@epa.ie



www.trinomics.eu

Trinomics 

Thanks !



www.trinomics.eu