EU ETS Monitoring and Reporting

Training Event on EU ETS 2
CAs approving ETS2 Monitoring Plans

14 November 2024

Agenda

Morning session	10:00 – 10:15	**Welcome & Introduction**
	10:15 – 10:30	**General aspects of ETS2**
	10:30 – 11:30	**MP template** Categorisation, tier system, released fuel amounts, scope factor, etc.
	11:30 – 11:45	*Tea break*
	11:45 – 12:20	**MP template (cnt'd)** Fuel specific aspects and what to check for, Guidance, templates, tools
	12:20 – 13:00	**Demonstration of the EU ETS Reporting Tool**
	Lunch Break	
Afternoon session	14:00 – 15:30	**Discussion on issues encountered / lessons learned / best practices (1)**
	15:30 – 15:45	*Coffee break*
	15:45 – 16:45	**Discussion on issues encountered / lessons learned / best practices (2)**
	16:15 – 16:45	**Demonstration of the AER template**
	16:45 – 17:00	**Close of the meeting**

General aspects of ETS2

General aspects

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

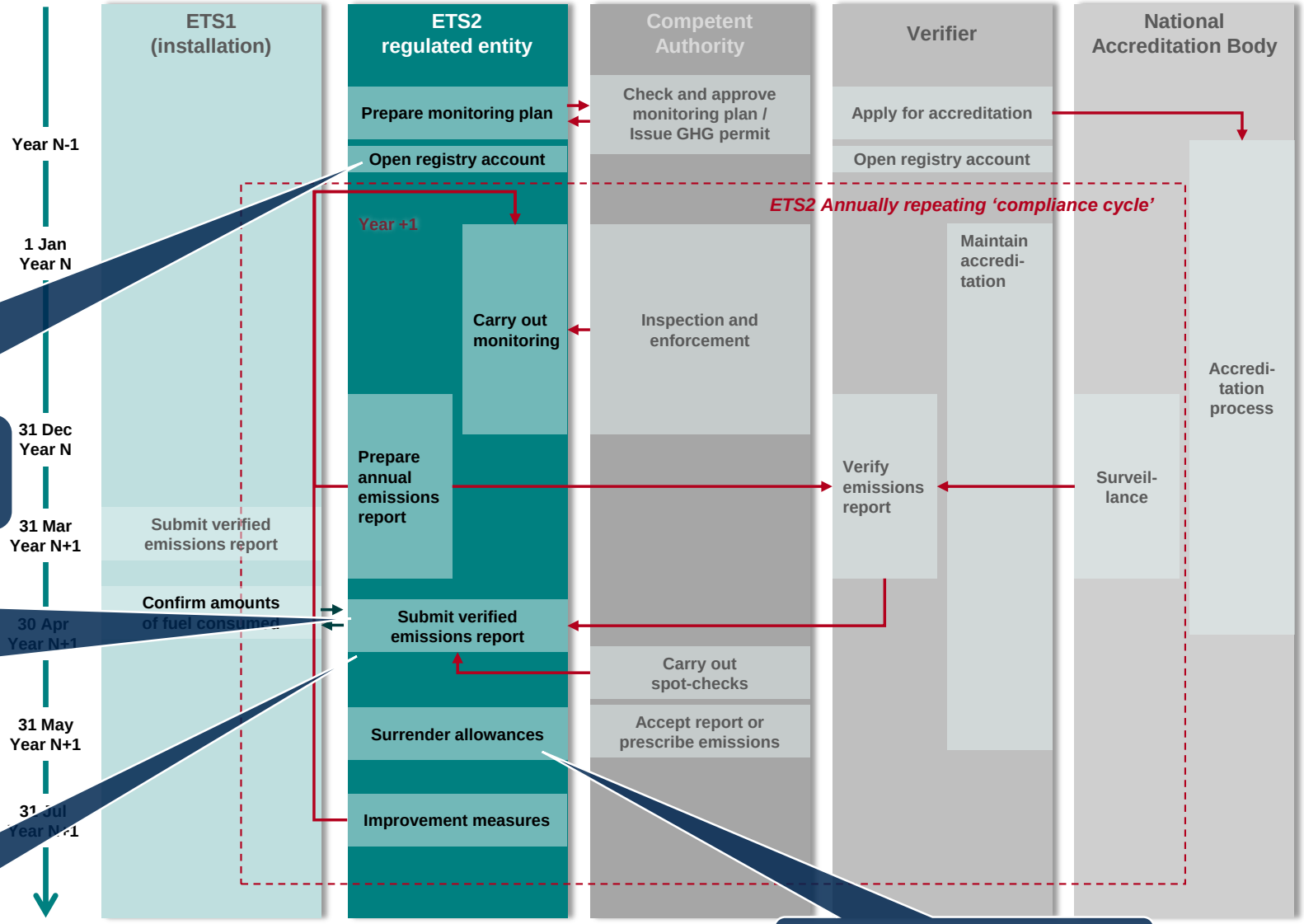
ETS2 Compliance cycle

Start of monitoring (as of 2025)

For 2025 and 2026
→ see revision of Registry Regulation

First report in 2025 on 2024 *historical* emissions (verification not required)

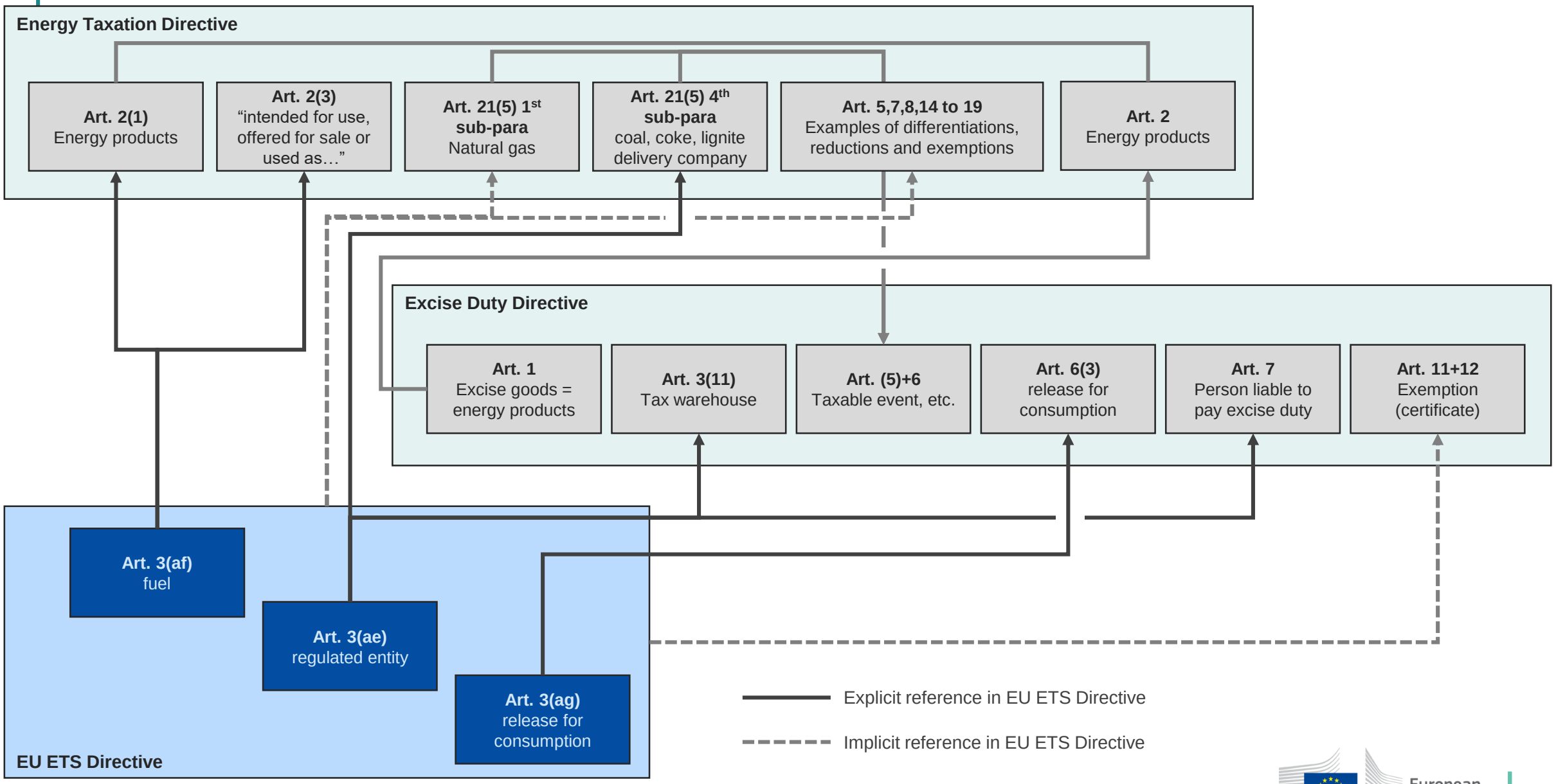
First verified report in 2026 (on 2025 emissions)



Picture by ENVIRONMENT AGENCY AUSTRIA umweltbundesamt

As of 2027 (2028)

European Commission



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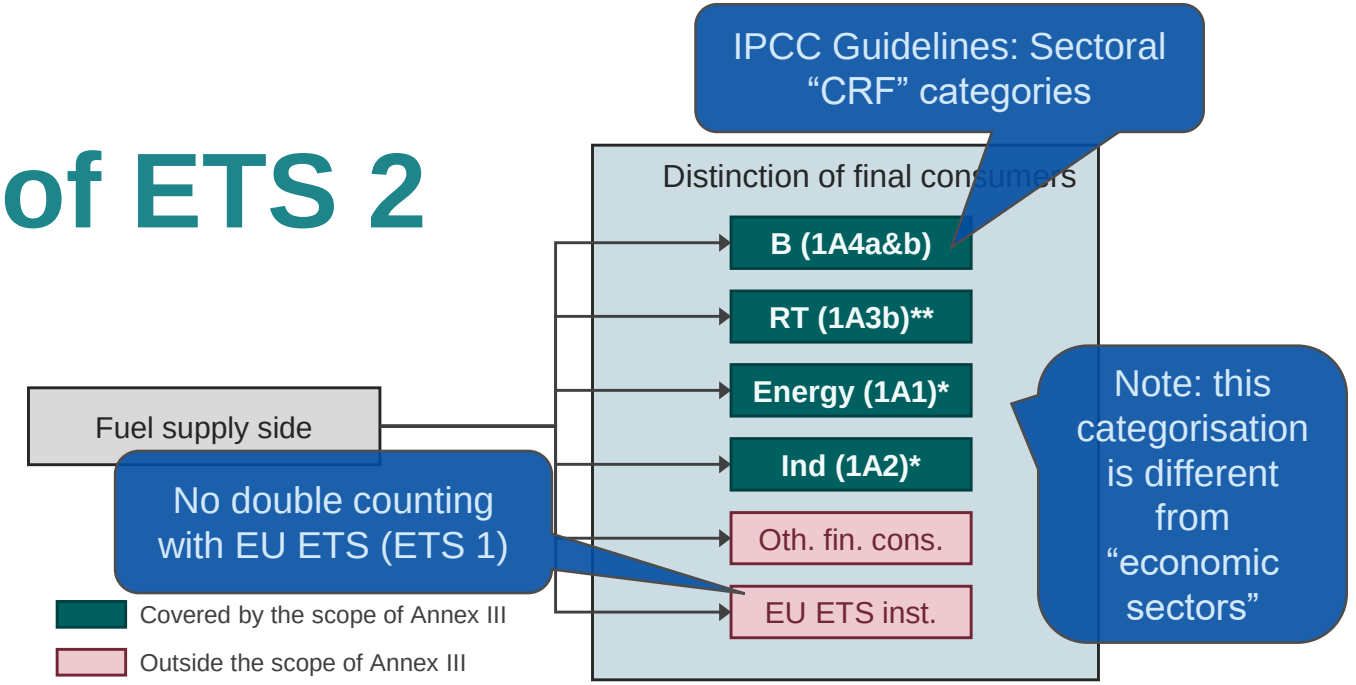
Sectoral coverage of ETS 2

Covered sectors:

- Heating and Cooling in Buildings (**B**), residential AND commercial
- Fuels for Road Transport (**RT**)
- **Energy** (1A1) **& Industry** (1A2)
- Unilateral opt-in (**Art. 30j**)



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

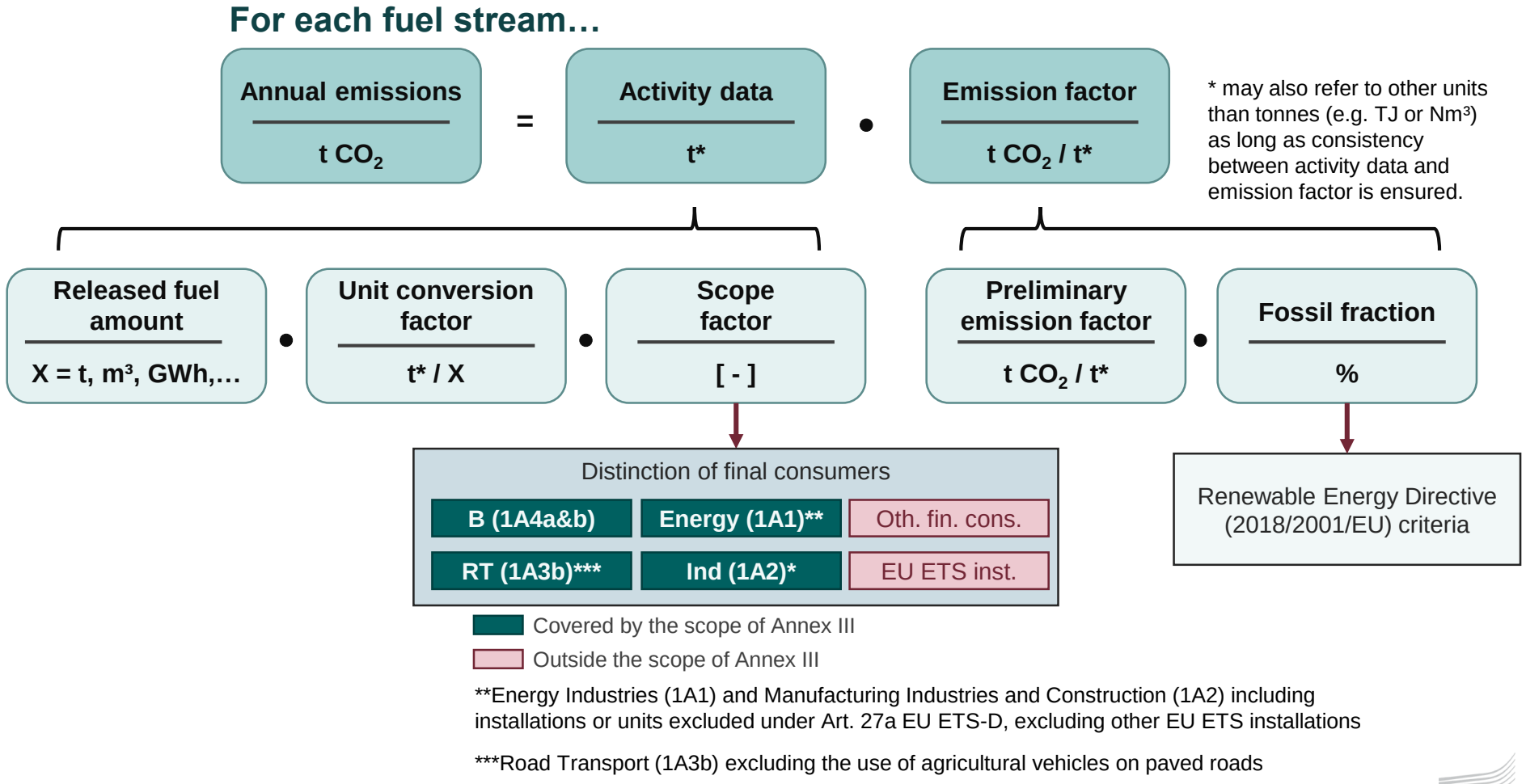
**Road Transport (1A3b) excluding the use of agricultural vehicles on paved roads

Main challenges:

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

How should the regulated entity monitor emissions?

ETS2 monitoring



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

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

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The Monitoring Plan

Purpose of the MP

Article 75b of the MRR

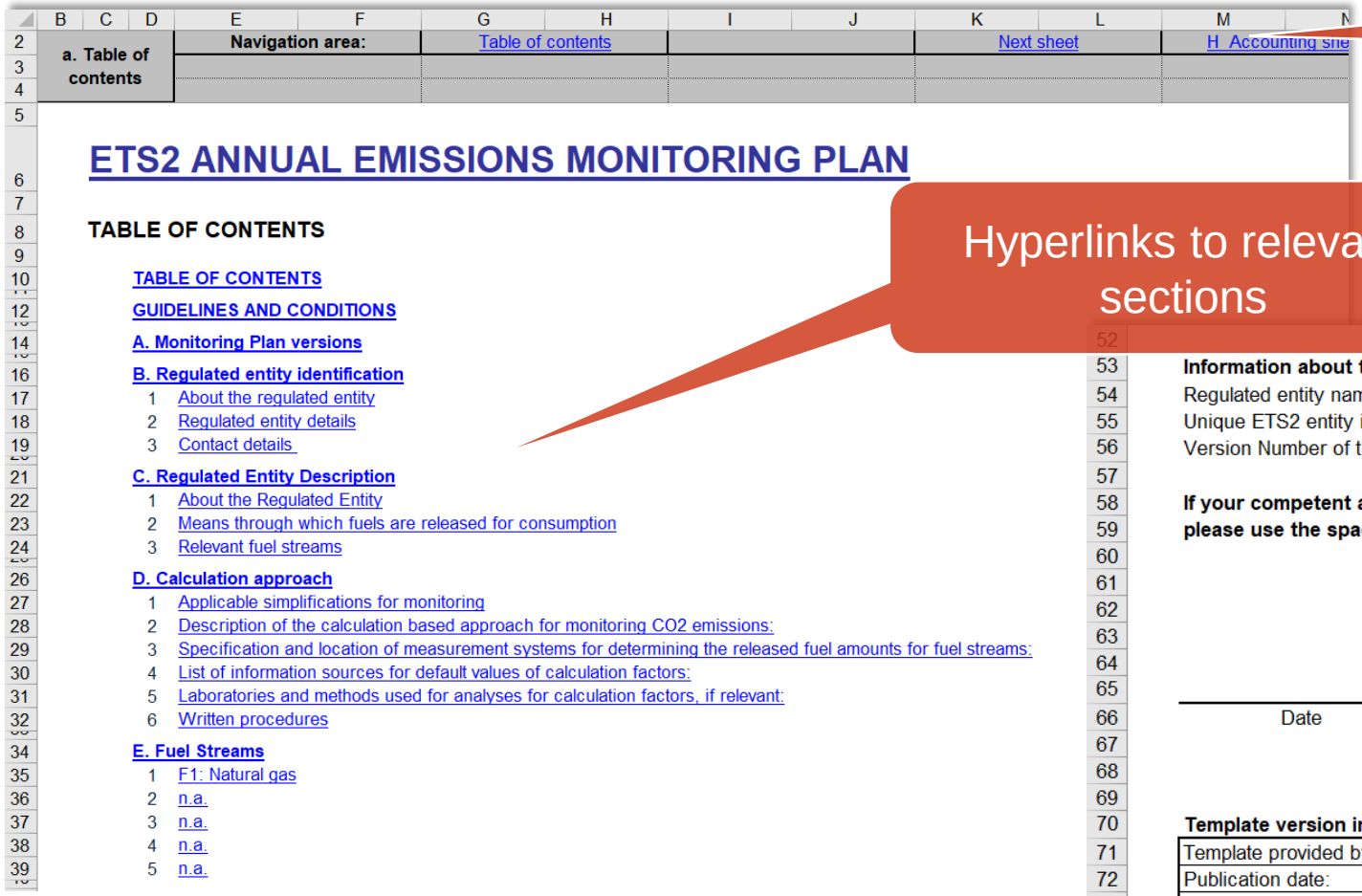
- *"The monitoring plan shall consist of a detailed, complete and transparent documentation of the monitoring methodology of a specific regulated entity and shall contain at least the elements laid down in Annex I."*

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)
- Methodology should be described in such detail that the **CA can confirm compliance** with the MRR and approve any reasons for derogation
- **Main basis for verification** of the AER

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

MP template: Table of contents



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

ETS2 ANNUAL EMISSIONS MONITORING PLAN

TABLE OF CONTENTS

Information about this file:

Regulated entity name	**EXAMPLE ETS2 regulated entity**
Unique ETS2 entity identifier:	**ETS2-123**
Version Number of this monitoring plan:	**3**

If your competent authority requires you to hand in a signed paper copy of the monitoring plan, please use the space below for signature:

Date

Name and Signature of legally responsible person

Template version information:

Template provided by:	European Commission
Publication date:	26.03.2024
Language version:	English
Reference filename:	MP ETS2_COM_en_260324.xls

Hyperlinks to relevant sheets

Hyperlinks to relevant sections

Version of the MP

Version of the template

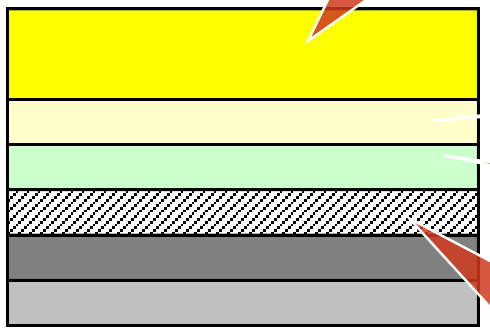
European Commission

Colour coding

Colour codes and fonts:

Black bold text:

Smaller italic text:



Mandatory inputs

Optional inputs

Automatic results

Conditionally greyed out, not relevant

Categorisation

- Regulated entities (Art. 75e(2)):
  - **Category A** <= 50.000 t CO_2(e) /year
  - **Category B** > 50.000 t CO_2(e) /year
- Exclusion of emissions from sustainable biomass (zero-rated carbon)
- Before application of scope factor, unless RE can demonstrate representativeness
- **Regulated entity with low emissions** < 1 000 t CO_2(e) /year
- **Excluded from the ETS2 scope and MP** (not in the ETD):
  - Peat, solid biomass, charcoal from wood, H_2 (covered by ETD but no carbon)

Practical demonstration

Categorisation of the regulated entity

Definition of 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
- Different **fuel type categories:**
  - **Commercial standard fuels:** internationally standardised fuels
    - Gasoline, Diesel and all common blended transport fuels thereof (E5, E10, B7,…)
  - **Fuels meeting equivalent criteria:** similarly standardized, but on national or regional level.
    - Most likely candidates: Natural gas, LPG, certain types of coal, in certain regions / MS
  - **Other fuels (non-standardised):** all other fuels, such as natural gas, LPG, coal

See dedicated Tool

Split into 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** (gasoline, diesel, natural gas, light fuel oil, etc.)
   - **Physical means** through which it is released (e.g., pipelines, trucks, etc.)
   - Type of **end consumers** (CRF category) and **scope factor method**

Transparency (also for further improving the ETS2) and **Verifiability**

2. **Categorise each fuel stream** (similar principles as for categorisation of the RE):
   - **De-minimis** fuel streams: fuel streams with a combined emission of < 1 000 tCO_2
   - **Major** fuel stream: all other fuel streams

Fuels delivered to **ETS1** and **REDII compliant** biofuels and biomass fuels also need to be reported in the MP

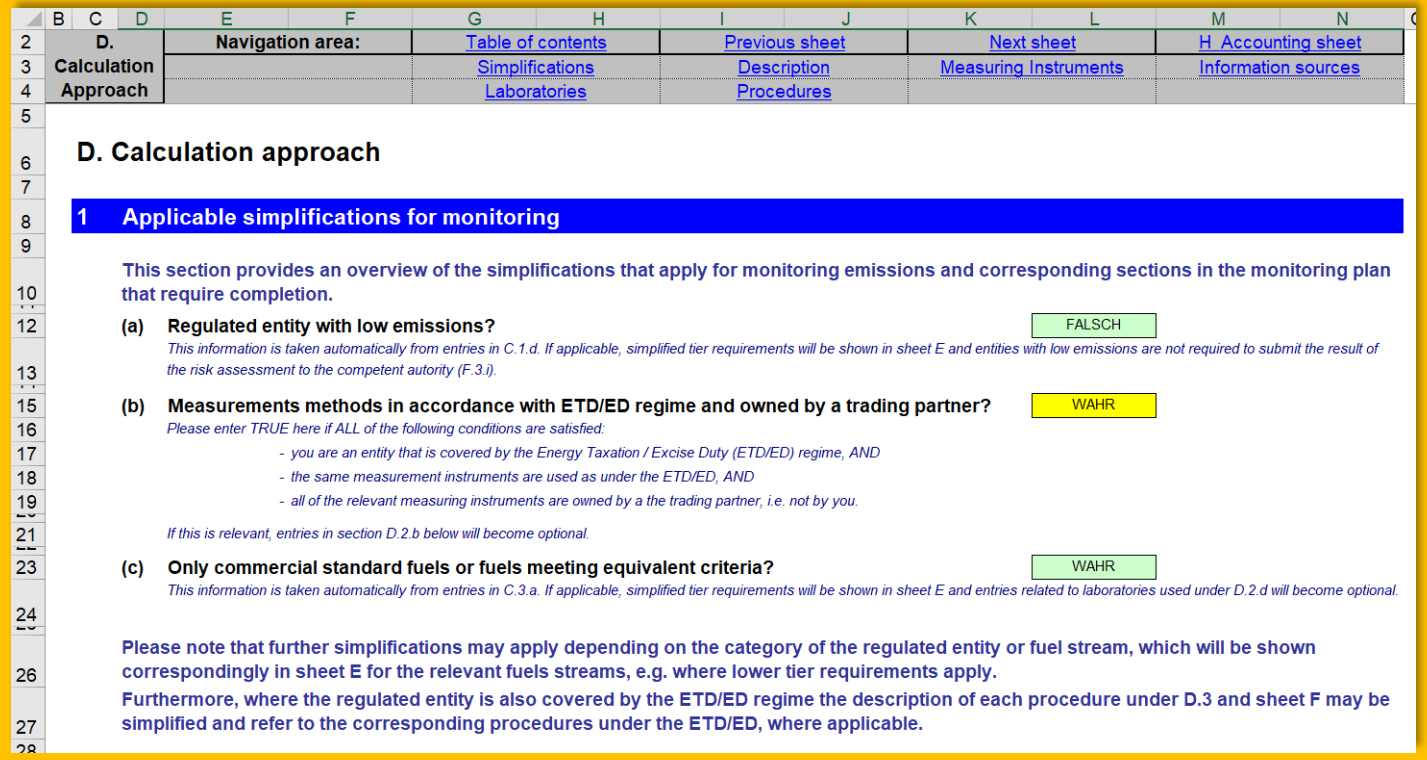
Practical demonstration

Identifying fuel streams and their means for release

Fuel stream	Type of fuel	Means	(Intermediate) consumer	Final consumer sector	Scope factor method	Emissions before scope factor	Category
1	Diesel	Trucks	Fuel stations	1A3b	Tier 2 (chain-of custody)	50 000	Major
2	Light fuel oil	Pipelines	Energy Industry (non-ETS1)	1A1a	Tier 2 (chain-of custody)	10 000	Major
3	Light fuel oil	Trucks	ETS1 installations Industry	1A2c	Tier 3 (ETS1 verified emission report)	800	Major
4	Light fuel oil	Trucks	unknown	1A	Tier 1	500	De-minimis

Practical demonstration

Applicable simplifications (section D.1)



D. Calculation Approach	Navigation area:	Table of contents	Previous sheet	Next sheet	H Accounting sheet
		Simplifications	Description	Measuring Instruments	Information sources
		Laboratories	Procedures		

D. Calculation approach

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?** FALSCH

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 autority (F.3.i).

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

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?** WAHR

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.

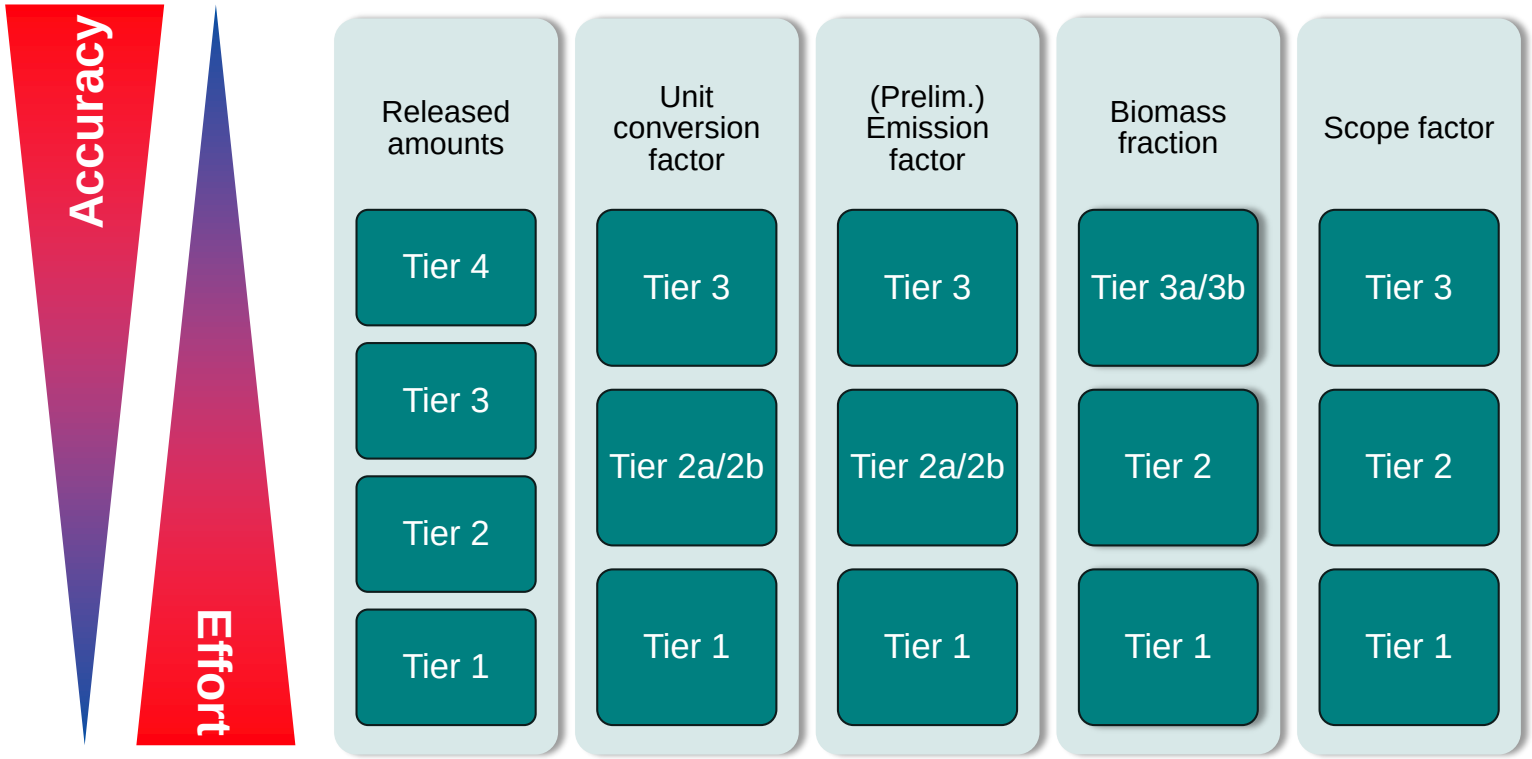
Please note that further simplifications may apply depending on the category of the regulated entity or fuel stream, which will be shown correspondingly in sheet E for the relevant fuels streams, e.g. where lower tier requirements apply.

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.

Practical demonstration

Relevant sections in sheet D

Which tiers have to be applied?



MP template automatically displays required tiers

Required tiers

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

RFA Released fuel amounts
UCF Unit conversion factor
EF_{pre} Preliminary emission factor
BF Biomass fraction
SF Scope factor

Example calculation

Combustion emissions: $Emissions = RFA \cdot UCF \cdot EF_{preliminary} \cdot (1 - BF) \cdot SF$

- Example Gasoline E10
- Annual emissions: $10.000.000\ l \cdot 31{,}4\ \frac{GJ}{1000l} \cdot 75{,}1\ \frac{tCO2}{TJ} \cdot (1 - 5{,}74\%) \cdot 1000 \cdot 1 = 22.273\ tCO2$

e.g. consistent with ETD/ED RFA amounts

e.g. Tier 3 (Euromarking) or Tier 1 (100%)

e.g. Tier 2a default value

e.g. Tier 2a default value

Biomass fraction Tier 3b (RED II)

Component	fossil/bio	1	2	3	4	5	6	7	8	9
		RFA	UCF			EF	BF	Energy	Emissions (fossil)	Emissions (bio)
			Density	NCV						
		litres	t/1000L	GJ/t	MJ/litre	t CO2/TJ	%	TJ	t CO2	t CO2
Gasoline	fossil part only	9 000 000	0,750	43,4	32,6	75,4	0	293	22 088	0
Bioethanol	biogenic	900 000	0,789	26,7	21,1	71,6	100	19	0	1 357
MTBE	fossil	100 000	0,740	35,0	25,9	71,3	0	2,6	185	0
TOTALS		**10 000 000**			**31,4**	**75,1**	**5,74**	**314**	**22 273**	**1 357**
		sum of the above			weighted average (7./1.)	weighted average ((8.+9.)/7.)	weighted average (9./(8.+9.))	sum of the above	sum of the above	sum of the above

Reasons for derogation

*For the **released fuel amount, calculation factors and scope factor***

See dedicated Tool

- **Unreasonable costs**
  - If costs of meeting the required higher tier exceed benefits
  - Threshold of € 4000 per year (€ 1000 for REs with low emissions)
- **Technically not feasible**
  - Technical resources not available to meet the requirements
  - Cannot be implemented in the required time

*For **scope factor** only*

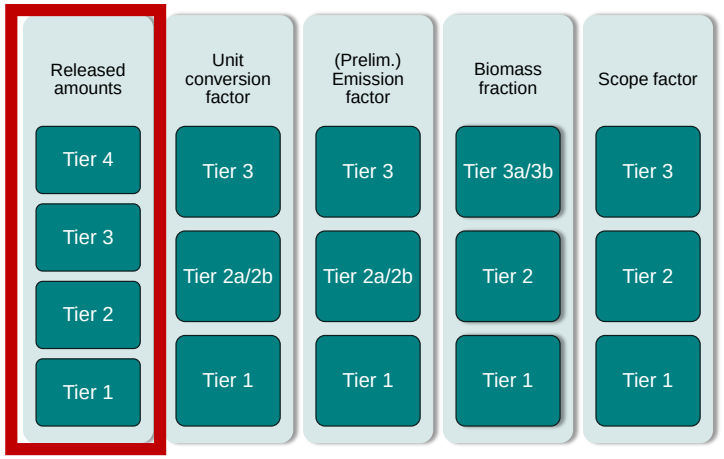
- **Tier 3 methods not available**
- **Simplified uncertainty assessment**
  - Lower tier leads to more accurate identification of end consumers' CRF categories
  - For 2024-2026, default value lower than 1 allowed (Tier 1) directly allowed following simplified uncertainty assessment

Regulated entities with low emissions

For RE with low emissions (< 1000 tCO_2 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 (will rarely be relevant)

Released amounts



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

Uncertainty assessment relevant but not required to be submitted to CA

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Timing of measurement (Art. 75j(2))

- Tool included in AER template, aligned with the corresponding example in section 5.3.2 of the GD

2 Tool 1

Fuel stream to which entries in this tool relate: F1. Gaseous - Natural Gas; Northern

Units: t		Best estimate (for year Y-1)	Actual released amounts (in year Y-1)	Reportable amounts (in year Y for Y-1)	Balance (reported - actual)
2025	Best estimate 2024	2 500		2 500	
	Actual released amounts 2024		2 300		200
2026	Best estimate 2025	2 300		2 100	0
	Actual released amounts 2025		2 600		-300
2027	Best estimate 2026	2 600		2 900	0
	Actual released amounts 2026		2 500		100
2028	Best estimate 2027	2 500		2 400	0
	Actual released amounts 2027				
2029	Best estimate 2028				
	Actual released amounts 2028				

Practical demonstration

Sheet E – Fuel Streams

Scope factor – CRF categorisation

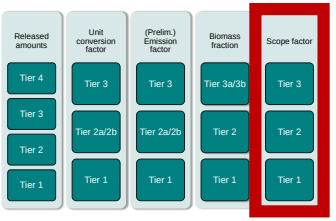
Overarching sector	Included	Excluded

Buildings
CRF 1A4a & CRF 1A4b
 
	• **Fuel combustion** in **residential/commercial/institutional buildings** (space heating, water heating, cooking, lawn mowers, etc.). This includes **households** fuel combustion
	• Also, off-road vehicles and machinery used in the buildings sector
		• Any emissions from fuel combustion in **agriculture**, forestry, fishing and fishing industries (*1A4c*):
		  • E.g. also <20 MW combustion units (incl. CHP) in agriculture sector
		• All **ETS1** emissions (incl. Art. 27):
		  • Energy production and manufacture industries
		  • Usually large >20MW combustion units (e.g. in large building complexes)

Road Transportation
CRF 1A3b
 
	• All **combustion CO_2 emissions** arising from fuel use, such as from:
	  • Cars
	  • Motorcycles
	  • Light-and heavy-duty vehicles
	  • Busses
	  • Trucks
	  • Additives
		• Other modes of transport:
		  • 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 *1A1, 1A2*	• **(Small-scale) industry**, all energy industries (*1A1*) and manufacturing industries and construction (*1A2*) that are not in ETS1 (Art. 27a installations)	• **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)

Scope factor – Tier 3



Tier	Tier definition	Short description

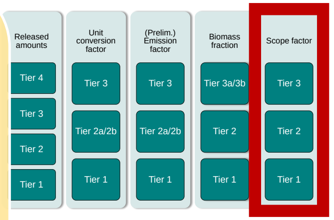
3	**Physical distinction of flows**	• Based on **physical distinction** of fuel flows, such as direct measurement of fuel flows in pipeline network
		• **Evidence** can be provided that end consumers fall under the ETS2 scope (Annex III list).
		  • Based on **legal zoning**: only industrial users allowed 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	• Proof based on **legal, technical and economic reasons**, which can be proven by the **chemical** properties of a fuel • To prove the above, **chemical properties** should be distinct from other fuels: purity, carbon or sulphur content, calorific value, etc.

	Chemical marking (EU)	• Fiscal marking of gas oil and kerosene under the **Euromarker** Directive
		  • 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

Scope factor – Tier 3



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	Tier definition	Short description

3	**Physical distinction of flows**	• 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).
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		  • Could be partially combined with chain of custody (such as self-declaration from fuel station connected to pipeline)

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	Chemical marking (EU)	• Fiscal marking of gas oil and kerosene under the Euromarker Directive • 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

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**

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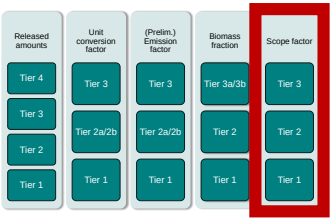
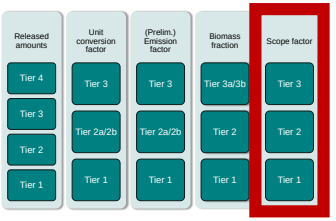
Scope factor – Tier 2



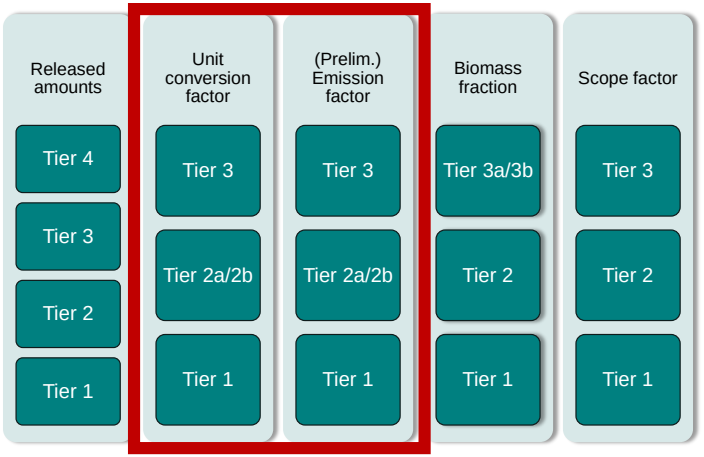
Tier	Tier definition	Short description
2	**Chain-of-custody**	• Chain of **traceable contractual arrangements and invoices.** • Documentation starts from end consumer up the supply chain to the fuel supplier • End consumers self-declare if consumption is out of scope of ETS2 • Useful overlap with IT Excise Movement Control System (EMCS) • In practice, only self-declaration needed from consumers outside of the ETS2 scope
	Chemical marking (national)	• Same as tier 3 Euromarker marking but regulated only at **national** level
	Indirect methods	• Use of **indirect** correlation, which allows distinction on **the individual consumer** level • Consumer distinction is needed for accurate cost pass-through

Scope factor – Tier 1



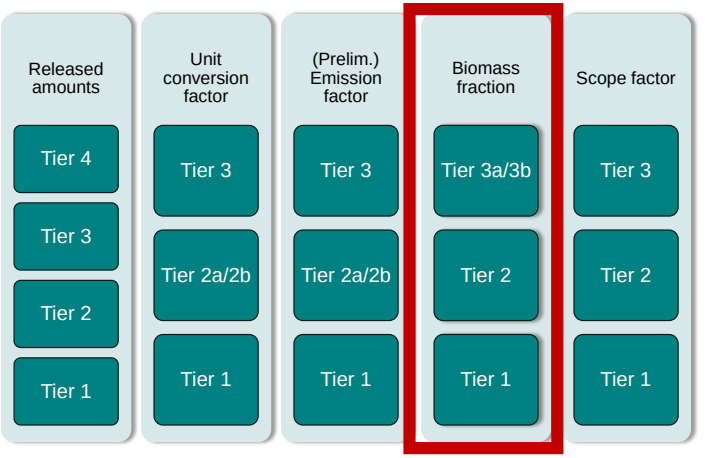
- **Tier 1**: Default value of 1 (Art. 75l(3))
- **Exemptions** (Art. 75l(4) and (6)):
  - **2024 to 2026**: values <1, if more accurate
  - **2027+**: Values <1, if:
    - De-minimis fuel stream, OR
    - Scope factor has to be outside [5%...95%]
  - CA may require use of **certain methods (Tier 3 and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

Calculation factors



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

Biomass fraction



- **Similar provisions to ETS1** (same type of fuels)
  - Tier 3a: Sampling & Analysis (Art. 32 to 35)
  - **Tier 3b: Proofs of sustainability (RED II criteria) → most relevant method**
  - Tier 2: Estimation methods
  - Tier 1: Default values published by CA or COM or Art. 31(1)
- **The compliance with RED II criteria**
  - Blended biofuels: should be available for most tax warehouses for **FQD/RED reporting**
  - For **biogas** (e.g.national (bio)gas registers): criteria only apply for >2 MW installations.
  - **Wood materials** (solid biomass) not relevant (not listed in ETD)

Avoiding double burden/counting ETS 1/2

- **ETS1 operators** shall submit information in **Annex Xa** (as part of AER)
  → MS may require to make available to ETS2 entity (e.g. fuel supplier) before 31 March
  - **31 March 2025**: No verification required of Annex Xa reporting
  - **31 March 2026**: Verified Annex Xa reporting
  - **By 31 Dec 2026**: Procedure to be included in the ETS1 MP
  - **31 March 2027**: Full reporting

- **ETS2 entities** shall submit information in **Annex Xb** (as part of AER)
- 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 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 for ETS1 purposes** (Annex Xa) to be delivered (stock changes, exports)

- Art. 75v(1): MS shall facilitate efficient **exchange of information** to enable ETS2 entities to determine the end use of the fuel

Data flow, control and risk assessment

- Summary of procedures as part of the MP
  - **Data flow**: **who** is taking **which** data, **when**, and **how**, from **where** to where (from **input data** to **final figures** in the AER)
  - **Control activities**: four-eyes principles, QA/QC, internal reviews, etc.
  - **Risk assessment**: to be carried out and submitted to CA (Art. 75b(2))
  - Detailed requirements and examples for simple and complex ETS1 cases can be found on DG CLIMA's ETS1 MRVA website (GD6 and 6a)

Probability	Impact	1	2	3	4	5
		50,0	500,0	1.000,0	5.000,0	20.000,0
1	0,50%	0,3	2,5	5,0	25,0	100,0
2	1,00%	0,5	5,0	10,0	50,0	200,0
3	10,00%	5,0	50,0	100,0	500,0	2.000,0
4	20,00%	10,0	100,0	200,0	1.000,0	4.000,0
5	50,00%	25,0	250,0	500,0	2.500,0	10.000,0

Improvement reporting

- Improvement report (Art. 75q, similar provisions to ETS1)
  - for a **category A** entity, every **5 years**
  - for a **category B** entity, every **3 years**
  - for any regulated entity that is using the **default scope factor** as referred to in Article 75l(3) and (4), **by 31 July 2026**
  - Operator has to submit an IR if the **verification report** contains outstanding non-conformities or recommendations.

Fuel specific aspects

…and what to check for in the MP

Required tiers

Indicates typical ranges for the most common RE

Required tiers for calculation factors (UCF, EF)			
Regulated entity category	**Commercial standard fuels**	**Equivalent fuels (Art. 75k(2))**	**Other fuels**
Cat. B (> 50kt)	Transport fuels; Natural gas		***Tier 3*** *Sampling & Analysis*
Cat. A (≤ 50kt)	Heating oil	***Default values*** *(e.g. Tier 2a)*	Coal, LPG
Regulated entity with low emissions or de-minimis fuel streams (< 1 000 t CO_2)			***Default values*** *(e.g. Tier 2a)*

Required tiers for released fuel amounts			
Regulated entity category	**Commercial standard fuels**	**Equivalent fuels (Art. 75k(2))**	**Other fuels**
Cat. B (> 50kt)	Transport fuels; Natural gas	***ETD/ED methods***, *otherwise Tier 4*	
Cat. A (≤ 50kt)	Heating oil	***ETD/ED methods***, *otherwise Tier 1/2*	Coal, LPG
Regulated entity with low emissions or de-minimis fuel streams (< 1 000 t CO_2)		***Purchase records / conservative estimates***	

Natural gas

Type of entity	Mostly **Fuel suppliers** or **DSO** (TSO)
Type of fuel	Check for **applicability of Art. 75k(2)**
Released Fuel Amounts	**Timing of measurements** (Art. 75j(2)) will be an issue Check for consistency with ETD/ED methods → in particular that **ALL released fuel amounts** are included (i.e. ETS2 amounts may be higher than ETD/ED amounts because of tax exemptions)
Scope factor	Tier 3 mostly not applicable (except 'ETS1 AER' data) check for **Tier 2 ('chain-of-custody' or 'indirect methods')**
Calculation factors	**Cat A** or where **Art. 75k(2)** criteria are met: use default values **Cat B**: Sampling & Analysis
Zero-rated carbon	Note that for biogas in natural gas grids, the zero-rating is not based on the physical biogas → **Purchase records** pursuant to Art. 39(3) and (4) Check for corresponding procedure in the MP

Common transport fuels

Type of entity	Mostly category B expected (→ highest tiers)
Type of fuel	Commercial standard fuels (→ default values)
Released Fuel Amounts	Check for **consistency with ETD/ED** methods
Scope factor	Tier 3 (**Euromarker**) possible to some extent Tier 3 (**Chemical distinction**) questionable Mostly Tier 1 (Default = 100%) expected, RE too far upstream
Calculation factors	**Publish relevant default values** (for fossil components, biofuels, additives)
Zero-rated carbon	**RED II compliant biofuels**, consistent with FQD/RED reporting

Oil products for heating

Type of entity	Many small (retail) suppliers (**RE with low emissions** → simplifications) Some larger ones
Type of fuel	Many **commercial standard fuels** (e.g. light fuel oil → default values)
Released Fuel Amounts	Check for **consistency with ETD/ED** methods → in particular that **ALL released fuel amounts** are included (i.e. ETS2 amounts may be higher than ETD/ED amounts because of tax exemptions) The many RE with low emissions will be able to simply use **purchase records**
Scope factor	Tier 3 (**Euromarker, Chemical distinction**) possible to some extent Tier 2 (**'Chain of custody' or 'indirect methods'**) possible
Calculation factors	**Publish relevant default values** (for fossil components, biofuels, additives)
Zero-rated carbon	**Mostly only fossil,** otherwise RED II compliant biofuels, consistent with FQD/RED reporting

Coal products and LPG

Type of entity	Many small (retail) suppliers (**RE with low emissions** → simplifications) Few larger coal producer (supplying ETS1)
Type of fuel	No commercial standard fuel → **but many RE with low emissions**
Released Fuel Amounts	Amounts often not consistent with ETD/ED (applicable tax exemptions) → **ALL released fuel amounts are relevant** The many RE with low emissions will be able to simply use **purchase records**
Scope factor	Tier 3 (**Chemical distinction**) possible to some extent Tier 2 (**'Chain of custody' or 'indirect methods'**) possible
Calculation factors	**Publish relevant default values** (for the many small suppliers to use)
Zero-rated carbon	**Mostly n.a.**

General (horizontal) aspects

Released Fuel Amounts	Check for **consistency with ETD/ED** and pay particular attention to cases where amounts are not consistent with ETS2 (e.g. tax exemptions apply) → **ALL amounts 'released for consumption' covered by ETS2**
Uncertainty assessment	Will **only be relevant in few number of cases** (mostly all in compliance with ETD/ED methods, plus under NLMC, or entities with low emissions which can use purchase records without further evidence)
Scope factor	RE should make **reasonable effort** to apply an ex-ante method and high accuracy → but often Tier 1 (100%) may apply (oil products etc.)
Calculation factors	Mostly default values (Tier 2a) applicable → **publish values on website**
Unreasonable costs	RE should make **reasonable effort** to demonstrate such costs (mostly linked to scope factor methods)
Procedures and other Sheet J information	**Only summary(!) of each procedure to be put into MP** Check for completeness and sufficient level of detail (often with reference to **coherent approaches as applied under ETD/ED**) for you to be confident that the underlying procedure facilitates the **verification process**
Risk assessment	Focus on particular on risks where methods are **not consistent with ETD/ED**, including amounts differ (see RFA above) Data flow / control activities / risk assessment important **basis for verification**

Available guidance and tools

List of ETS2 Guidance, templates & tools

- **General guidance** on ETS2 M&R
- **MP template**
- **AER template**

https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en

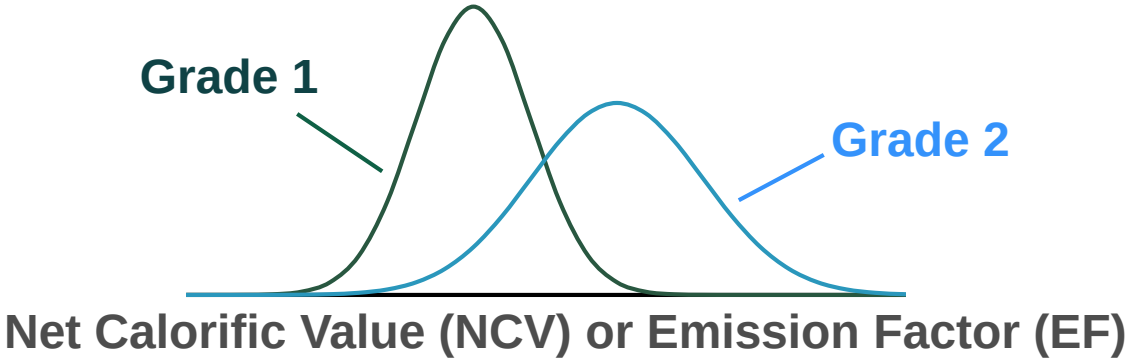
- Tool for **unreasonable cost** assessment
- Tool for **Art. 75k(2)** (fuels equivalent to commercial standard fuels)
- Further **guidance and tools for ETS1** available (uncertainty assessment, risk assessment, etc.)
- **Any further needs?**

Practical demonstration

Tool for unreasonable costs

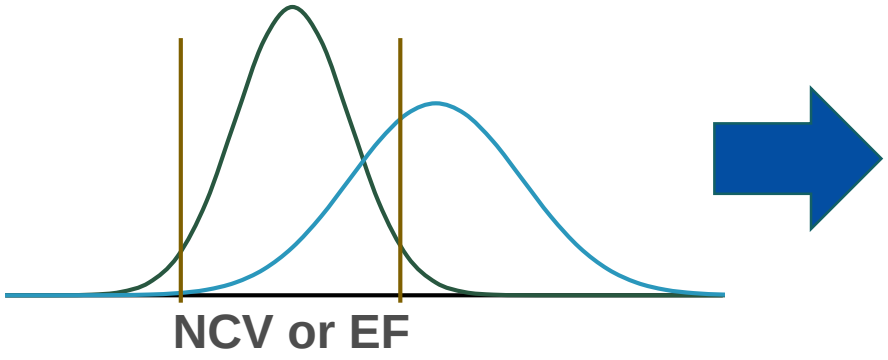
Tool for equivalent (Art. 75k(2)) fuels

- Example: two different grades of the same fuel (e.g. natural gas grades)



- **Situation 1**: only one grade or only both individually are < threshold

NCV or EF <± 2% (at 95% confidence)

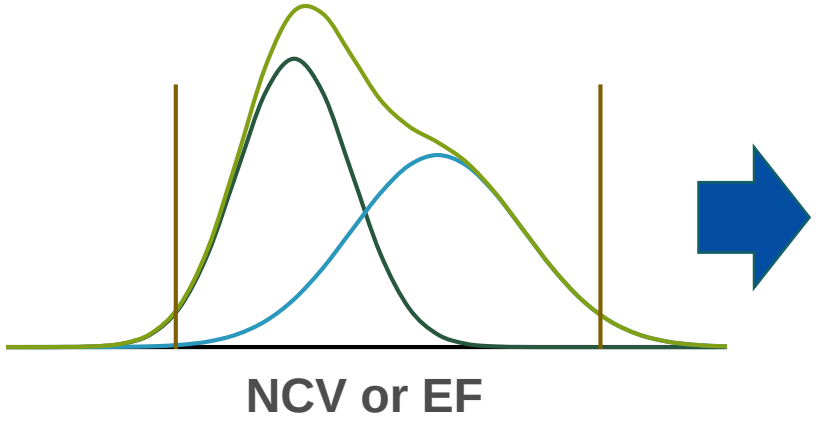


Only **Grade 1 would qualify as a (national) standard fuel** and may apply Tier 2a values

Tool for equivalent (Art. 75k(2)) fuels

- **Situation 2**: both combined still < threshold

NCV or EF <± 2% (at 95% confidence)



Option 1: Label each grade as a distinct [national standard] fuel stream type

Option 2: Combine both grades in a single [national standard] fuel stream type

- which **option to prefer** will have to balance:
  - accuracy (Option 1 preferred)
  - availability of UCF/EF inventory data (Option 2 likely preferred)
  - Fuel specification in the national Energy Taxation regime

Practical demonstration

Tool for Art. 75k(2) fuels

ETS Reporting Tool

Plenary discussion:

issues encountered / lessons learned / best practices

AER template

RFA Released fuel amounts
UCF Unit conversion factor
EF_{pre} Preliminary emission factor
BF Biomass fraction
SF Scope factor

Example calculation

Combustion emissions: $Emissions = RFA \cdot UCF \cdot EF_{preliminary} \cdot (1 - BF) \cdot SF$

- Gasoline E10 – commercial standard fuel → use of Tier 2a default values applicable
- $10.000.000\ l \cdot 31{,}4 \frac{GJ}{1000l} \cdot 75{,}1 \frac{tCO2}{TJ} \cdot (1 - 5{,}74\%) \cdot 1000 \cdot 1 = 22.273\ tCO2$

Component	fossil/bio	1	2	3	4	5	6	7	8	9
		RFA	UCF			EF	BF	Energy	Emissions (fossil)	Emissions (bio)
			Density	NCV						
		litres	t/1000l	GJ/t	MJ/litre	t CO2/TJ	%	TJ	t CO2	t CO2
Gasoline	fossil part only	9 000 000	0,750	43,4	32,6	75,4	0	293	22 088	0
Bioethanol	biogenic	900 000	0,789	26,7	21,1	71,6	100	19	0	1 357
MTBE	fossil	100 000	0,740	35,0	25,9	71,3	0	2,6	185	0
TOTALS		**10 000 000**			**31,4**	**75,1**	**5,74**	**314**	**22 273**	**1 357**
		sum of the above			weighted average (7./1.)	weighted average ((8.+9.)/7.)	weighted average (9./(8.+9.))	sum of the above	sum of the above	sum of the above

CA encouraged to publish such default values on website
(incl. for the biofuel and additive components)

Practical demonstration

Completing the AER

MSspecific parameters for fuels

End of the training