VER WhitePaper

Version 1.0

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1. Introduction

The purpose of this work is to establish a common and structured framework for **Vessel Emissions Reporting (VER)** that can be used reliably across a wide range of stakeholders and commercial contexts. As emission regulation becomes more complex and commercial use of emission data increases, the lack of harmonised reporting structures has emerged as a key barrier to interoperability, transparency, and digital efficiency.

In considering where standardisation is most needed, vessel emission reporting use cases can be grouped into four broad categories, reflecting differences in purpose, stakeholders, timing, and maturity.

- **The first category** covers mandatory regulatory reporting schemes addressed to ISM companies. Examples include IMO DCS and CII, EU MRV and EU ETS, FuelEU Maritime, and UK MRV and UK ETS. These schemes are characterised by well-defined regulatory requirements, annual or partial-year aggregation, and established reporting formats. As these reporting obligations are already comprehensively specified through regulation, they are considered outside the scope of this work.
- **The second category** covers annual or fleet-level voluntary declarations aligned with specific environmental or financial initiatives, such as the Poseidon Principles for banks or the Sea Cargo Charter for charterers. These schemes follow established methodologies and structures tailored to their respective frameworks, typically based on annual performance metrics calculated at fleet or fleet-segment level. Category 2 reporting is therefore also considered out of scope.
- **The third category** covers vessel emission reporting for commercial purposes, often supported by third-party statements, where the reporting requirements are not defined in regulation and vary significantly between use cases. Typical examples include:
  - Emission data used by shipowners, operators and charterers to support charter-party clauses related to fuel consumption, CII performance, EU ETS and UK ETS cost allocation, or FuelEU Maritime penalties
  - Emission reporting exchanged between shipowners, charterers, fuel suppliers and pool managers to support FuelEU pooling arrangements
  - Commercial emission reporting used by digital emission platforms, carbon trading mechanisms, and offsetting schemes

  Unlike Categories 1 and 2, Category 3 reporting lacks a harmonised structure. Formats, data granularity, and verification approaches vary widely depending on the commercial context, bilateral agreements, and timing requirements. Stakeholders typically require emission information per voyage, per leg, or per contract period, and often shortly after voyage completion or at the end of a commercial agreement, rather than as part of an annual regulatory reporting cycle.

  The absence of a common structure for Category 3 reporting creates inefficiencies, increases the risk of misinterpretation, and limits interoperability across digital systems. A structured, standardised reporting framework would provide significant value to commercial stakeholders while remaining compatible with verified and non-verified emission data.

- **The fourth category** includes other emerging and less mature uses, such as internal ESG monitoring, carbon exposure management, reporting to ports, or ad-hoc reporting to professional associations. These applications were assessed as too diverse and insufficiently mature to be included within the scope of the current work.

Regulatory schemes typically rely on verified, end-of-year data, while commercial emission reporting is frequently required at voyage level or contract level and may need to be delivered shortly after voyage completion or contract close. Any practical VER framework must therefore accommodate both verified and non-verified data, while ensuring clarity regarding verification status.

In addressing a wide range of commercial use cases within Category 3, attempting to define bespoke reporting formats for every individual scenario would introduce unnecessary complexity. Instead, a single standardised structure has been defined that spans both emission-level and consumption-level reporting, allowing each commercial application to use the items relevant to it. This approach reduces scope complexity while allowing different commercial applications to align with a common, interoperable structure.

Against this background, the following sections define the scope, objectives, and application of the VER framework, clarifying what the work intends to achieve and how the resulting standard is expected to be used.

1.1 Scope

The scope of this work is to define:

- *a set of standardized Vessel Emissions Reporting (VER) formats tailored to commercial use cases. These formats should utilize emission outputs as defined by relevant regulation(s) from the applicable data model(s), including information on verification status, and support reporting for any user defined time period.*

Figure 1 illustrates the position of the VER within the overall emission data flow, showing how raw data and calculations feed into digital solutions, verification processes, and ultimately result in digital emission reports that can be consumed by a wide range of users. The VER is intended to be aligned with OVD where applicable.

Figure 1 clarifies the scope of VER in overall emission data flow

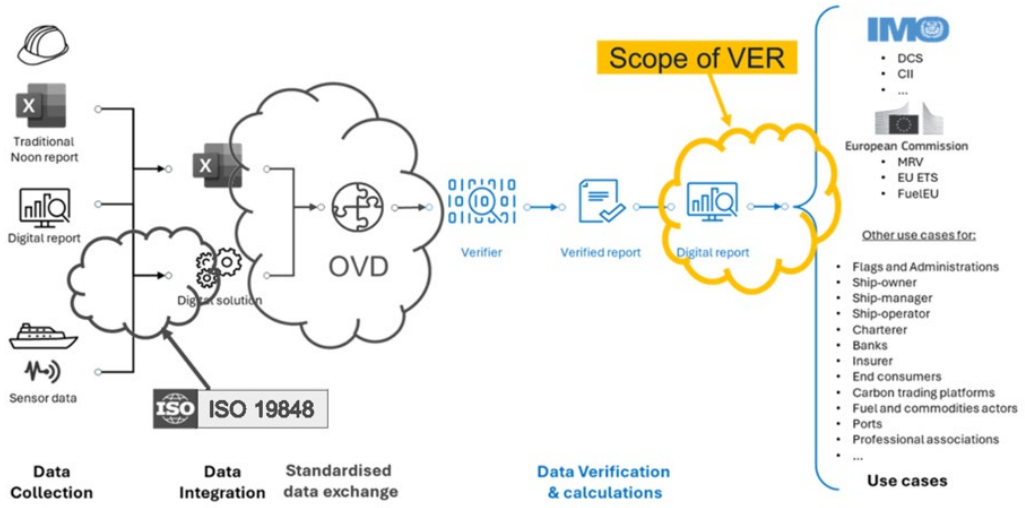


Figure 1 — Scope of VER in overall emission data flow

1.2 Objectives

The primary objective of this work is to develop a standardised data model for Category 3 Vessel Emissions Reporting, intended to support commercial and operational use beyond mandatory regulatory reporting.

To achieve this, the data model defines the relevant data structures, data elements, and associated process rules needed to represent a VER in a consistent and unambiguous way. Emphasis is placed on defining the underlying data and relationships, rather than prescribing specific visual layouts or report templates.

The framework is designed to support both machine-to-machine data exchange and human-readable outputs. This ensures that VERs can be integrated efficiently into digital platforms, analytics tools, and automated workflows, while still being suitable for interpretation by human users such as ship operators, charterers, verifiers, and commercial counterparties.

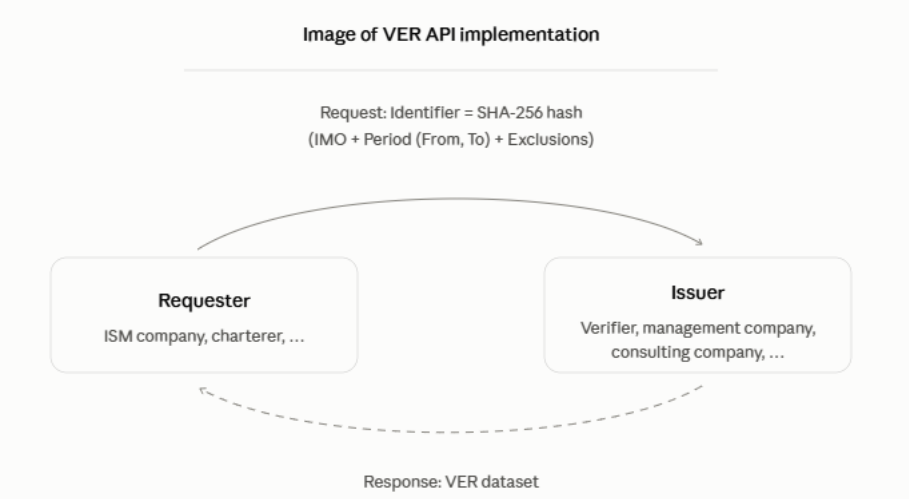


Figure 2 — Image of VER API Implementation

A key objective is the harmonisation of emission data, enabling the same underlying data to be reused across different reporting contexts and stakeholders, thereby reducing duplication, inconsistencies, and the need for bespoke formats.

1.3 Application

The VER standard and data model are intended to support both verified and un-verified Vessel Emissions Reporting. This reflects the reality that emission statements may be issued for different purposes, at different stages, and with different levels of assurance.

The VER framework is open to any interested party, provided that each statement clearly and transparently indicates its verification status. This ensures that users of a VER can understand the level of confidence and assurance associated with the data, without restricting participation to a limited group of issuers.

To support this transparency, the framework distinguishes between statements issued by accredited third-party verifiers and those issued as self-declarations or second-party statements. This distinction is explicitly reflected in the data model, making it possible to identify who issued the VER and under what type of conformity assessment.

The framework does not mandate which type of verification must be used for a given application; instead, it provides a structured and transparent basis upon which different commercial, operational, or regulatory use cases can rely.

2. Dictionary for Terms and Definitions

The table below shows terms and definitions for common interpretation.

1. Terms and definitions appliable to VER

#	Term	Definition
1	Commercial Statement– category 3	A **commercial statement –** a statement covering any user-defined period, detailing GHG statement, as defined by relevant regulations, not serving statutory-compliant purposes. Main differences with the regulatory verification statement: - Non-statutory purpose: it does not address the certification for statutory compliance with an international, regional, or national regulation as defined for **Regulatory verification**. - The GHG emission period (refer to the definition of **given period**) does not necessarily match the annual or partial year defined for **Regulatory verification**. **The VER is a commercial statement.**
2	Given period	A **given period** is defined by the interested party of the VER. It is defined by the starting and ending dates of: - a voyage or a port stay, - a chartering time; - periodicity: weekly, monthly, quarterly, etc. - any other time range. It can exclude periods within the **given period**, such as off-hiring periods.
3	Status of the VER	The **status of the VER** refers to its **validation** and/or **verification** as applicable. - **Validated** – passed defined **validation** (ref. ISO 14064-3, 3.6.3) process with positive result - **Verified** – passed **regulatory verification** (ref. ISO 14064-3, 3.6.2) process with positive result
4	Disclaimer	A **disclaimer** is a text inserted in the document form of the VER to limit the legal liability of its issuer and to clarify the responsibilities of the users of the VER or more generally to set terms and conditions of use.

2. Supporting terms and definitions

#	Term	Definition
1	Validation	**Validation** - confirmation of plausibility of data for a specific intended use or application, through the provision of objective evidence that **specified requirements** have been fulfilled
2	Specified requirements	**Specified requirements** – automatic plausibility checks on input data reported by interested party, performed in third-party's systems
3	Regulatory verification – category 1	**Regulatory verification** refers to the process for evaluating a statement of historical data and information to determine if the statement is

		materially correct and conforms to criteria for statutory compliance with: - International Regulations, e.g., IMO DCS and CII; and/or - Regional Regulations, e.g., EU MRV/ETS and FuelEU; and/or - National Regulations, e.g., UK ETS. This verification requires accreditation/authorization by competent authorities: - Authorization by Flag states for IMO DCS and CII - Accreditation by a national accreditation body of any EU Member States for EU MRV/ETS and FuelEU. - Accreditation by the UK accreditation body for UK ETS
3.a	Annual verification	**Annual verification** refers to the verification of the GHG emissions of a complete calendar year, e.g., from 01st January to 31th December 2025.
3.b	Partial verification	**Partial verification** - refers to the verification of the GHG emissions of a part of the year – in case of the transfer of a ship from one Administration to another or/and from one company to another

3. Data Structure

3.1 Reporting Concept: Periods and Leg Parts

The Vessel Emissions Reporting (VER) is structured around two core entities: **Period** and **Leg Part**.
A **Period** defines the reporting boundary chosen for a specific commercial use case, such as a voyage, calendar month, year-to-date, or any user-defined start and end date/time.
Each Period represents the aggregation level at which emissions are summarized and verified.
Within a Period, vessel activity is represented through one or more **Leg Parts**.
Leg Parts describe discrete operational segments (at sea or in port) with defined start/end times and locations.
A single voyage leg may be split into multiple Leg Parts to reflect reporting needs, such as calendar boundaries or regulatory requirements.
For example, if a voyage spans two months, it is divided into separate Leg Parts so each portion aligns with the relevant Period.
Leg Parts may also be split due to exclusions, such as drydock, off-hire, or other commercially excluded intervals.
Each Leg Part links back to its parent Period via a reference key, avoiding duplication of invariant vessel data.
Together, Periods and Leg Parts enable flexible, transparent, and verifiable emission reporting across commercial and regulatory contexts.

3.2 Structure Overview

The VER data model is designed to satisfy the following key objectives:

- Representable in a single tabular form.
- Both machine-to-machine (M2M) friendly and human-readable.

In many industries a purely hierarchical format such as JSON would be the natural choice for this kind of data. In the maritime sector, however, emission reports are frequently opened and checked by crew, superintendents and commercial staff using ordinary spreadsheet software, and a format that cannot be read without a dedicated tool is unlikely to be adopted in practice. The VER is therefore exchanged as a single CSV file that can be opened directly as a table. JSON is used only within individual fields, where repeating entries such as exclusions or fuel consumption records cannot be held as a single value.

The data structure is organized into two levels:

(a) **Period**: A top-level record containing summary of verified emission data for the entire reporting period. This record has no 'ParentIdentifier' reference.

(b) **Leg Parts**: Sub-records belonging to the Period, each linking to the parent 'Identifier' through the 'ParentIdentifier' field. They contain VER at the phase level, without repeating invariant data already held in the parent Leg (e.g., ShipName, DWT). Also, the Identifier of a Leg Part shall be unique within its Period; the method of generation is left to the issuer.

Notes:

- The model uses **Leg Parts** alongside **Period** rather than a single indivisible leg, since the first and last legs of a period may be partial, and exclusions (e.g., drydock, emergency) may break a leg into multiple parts.
- The Identifier of a **Period** is a SHA-256 hash based on IMO number ('IMO'), period start ('From') /end dates ('To'), and exclusion ('Exclusion')

Figure 3 illustrates the relationship between **Period** and its constituent **Leg Parts**

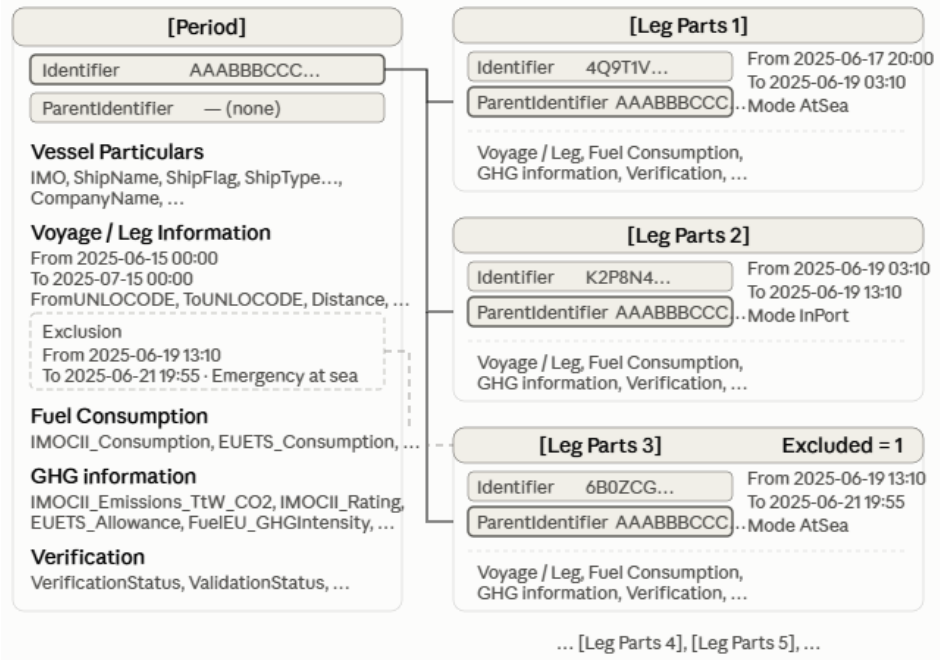


Figure 3 — VER Data Structure: Relationship between Period and Leg Parts

3.3 Data Structure Table

The table below illustrates the data structure with a simplified example (Period and Leg Parts), represented as a single tabular form. For the complete list, refer to Section 4 (Data Item List).

Identifier	ParentIdentifier	IMO	From	To	Exclusion	…	FuelEU_ComplianceBalance	VerificationStatus
AAABBBCCC		1234567	2025-06-15 00:00	2025-07-15 00:00	[{ "From":"2025-06-19 13:10", "To":"2025-06-21 19:55", "ExclusionDesc":"Emergency at sea" }]	…	18500825.60	1
4Q9T1V3J…	**AAABBBCCC**		2025-06-17 20:00	2025-06-19 03:10		…	-6042184.96	1
⋮	⋮	⋮	⋮	⋮	⋮	⋱	⋮	⋮
6B0ZCG7K…	**AAABBBCCC**		2025-06-24 00:45	2025-07-09 02:15		…	24885157.12	1

3.4 Examples

To give readers a concrete picture of an actual VER, the examples **[Addendum 3.4]** present complete, real-world cases. They also demonstrate compliance with the following system implementation rules, which shall apply to any VER:

- data items not applicable to a Period or Leg Part (e.g. ShipName for a Leg Part) are returned as empty;
- when a verifier does not possess data for a defined VER item, the item is returned as empty

- port arrival and departure are not prescribed by this standard and are assumed to follow general commercial terms
- values reported at Period level are not necessarily the arithmetic sum of the corresponding Leg Part values, and are as determined by the issuer
- CII values reported at Leg Part level are indicators for that segment and do not constitute an attained CII under the IMO framework

- Example 1: EU/UK port-call voyage with partial scheme coverage —
  A voyage from Zeebrugge to Southampton (17 June – 9 July 2025) spanning five Leg Parts, including an EU port call, exclusions for an emergency at sea and a drydock period, biodiesel among the bunkered fuels, and a final leg subject to 50 % EU ETS and UK ETS coverage, verified by an accredited classification society as a third party.

4. Data Item List

The table below lists all data items for the standardised VER. The columns are organised as follows:

- Data Category — a grouping for readability only, not part of the dataset.
- Data Item / Component — each top-level data item and, where a sub-structure applies, its sub-elements. Items with no sub-structure show a dash (—) in the Component column.
- Data Type — the value type of each item (e.g. Text, Number with 3 decimals, Boolean, Sub-structure). An item typed as Sub-structure carries a JSON array within a single field, allowing repeating entries such as exclusions or fuel consumption records to be held in one column; its sub-elements are listed in the Component column.
- Unit — the unit of measurement, where the item is a measured or calculated quantity. A dash (—) indicates that no unit applies.
- Period / Leg Part — a check (✓) indicates the item is reported at that level; a dash (—) indicates it is not.
- Description — the definition of the data item / component.
- Code list — the permitted values, where the item is restricted to a code list.
- Example — a representative value, shown once per Data Item.

Table 4-1 Data item list

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
Identifier	**Identifier**	—	Key	—	✓	✓	Identifier for the Period or LegPart - constructed as a hash based on IMO + Period(From, To) and Exclusion - using SHA-256 hash	–	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798
	ParentIdentifier	—	Key	—	—	✓	Reference to the Period a LegPart is part of/belongs to	–	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798
Vessel Particulars	**IMO**	—	Number(7)	—	✓	—	The ship identification number shown on its IMO ship's certificate.	–	1234567
	ShipName	—	Text	—	✓	—	The ship's name shown on the IMO ship's certificates.	–	NK Cargo Ship
	ShipFlag	—	Text	—	✓	—	A code representing the nationality of the ship shown on its IMO ship's certificate.	UN/EDIFACT codes 3207 https://service.unece.org/trade/untdid/d23a/tred/tred3207.htm ISO 3166-1 alpha-2 code ↗ ISO page	PA
	ShipTypeIMO	—	Text	—	✓	—	The type of the ship.	Code list: UN/CEFACT Recommendation 28 ship type codes. See Table 4-3.	Bulk carrier
	ShipTypeMARPOLVI	—	Text	—	✓	—	A code representing the ship type as defined in MARPOL Annex VI.	Code list maintained by IMO Chemical tanker | Chemical tanker Bulk carrier | Bulk carrier Combination carrier | Combination carrier Containership | Containership Cruise passenger ship | Cruise passenger ship Gas carrier | Gas carrier General cargo ship | General cargo ship LNG carrier | LNG carrier Passenger ship | Passenger ship Refrigerated cargo carrier | Refrigerated cargo carrier	Bulk carrier

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
								Ro-ro cargo ship | Ro-ro cargo ship Vehicle carrier | Vehicle carrier Ro-ro passenger ship | Ro-ro passenger ship Tanker | Tanker	
	ShipTypeEUMRV	—	Text	—	✓	—	A code representing the ship types referred to in EU MRV and UK ETS regulations	Code list: Cargo ship | Cargo ship General cargo ship | General cargo ship Passenger ship | Passenger ship Offshore ship | Offshore ship	Cargo ship
	ShipDWT	—	Number with 3 decimals	mt	✓	—	DWT as used in the vessel's CII calculations	–	20000.000
	ShipGT	—	Number with 3 decimals	tons	✓	—	The gross tonnage shown on the ship's International Tonnage Certificate or other document issued by the flag State or recognized organization.	–	30000.000
	ShipIceClass	—	Text	—	✓	—	A code representing the ice class notation assigned to the ship, indicating its structural capability and operational suitability for navigation in ice conditions, as defined by Baltic Marine Environment Protection Commission (HELCOM).	Code list as per defined by Baltic Marine Environment Protection Commission (HELCOM) Recommendation 25/7: IAS | IA Super IA | IA IB | IB IC | IC II | II NO | None	NO
	ShipFwind	—	Number with 2 decimals	—	✓	—	A value representing the wind-assisted propulsion reward factor (fwind) specified in FuelEU Maritime Annex I, determined by the ratio of wind propulsion power to total propulsion power (Pwind/Pprop)	–	0.97
	ShipFi	—	Number with 4 decimals	—	✓	—	A factor (fi) representing the capacity correction applied to ice-classed ships, as defined in the applicable EEDI calculation guidelines, to account for the impact of ice-strengthening on the ship's transport capacity.	–	1.0000
	ShipFm	—	Number with 2 decimals	—	✓	—	A factor (fm) representing the correction applied to ice-classed ships with ice class IA Super or IA, as defined in the applicable EEDI calculation guidelines.	–	1.00
	ShipFc	—	Number with 5 decimals	—	✓	—	A factor (fc) representing the cubic capacity correction applied to ships, as specified in paragraph 2.2.12 in the applicable EEDI calculation guidelines.	–	1.00000
	ShipFi_VSE	—	Number with 3 decimals	—	✓	—	A factor (fi, VSE) representing the correction applied for ship-specific voluntary structural enhancements, as specified in paragraph 2.2.11.2 in the applicable EEDI calculation guidelines.	–	1.000
	ShipAFTanker_STS	—	Number with 5 decimals	—	✓	—	A factor (AFTanker, STS) representing the correction applied to tankers engaged in ship-to-ship (STS) transfer operations, as specified in paragraph 4.2 in the applicable CII calculation guidelines.	–	0.30000
	ShipAFTanker_Shuttle	—	Number with 5 decimals	—	✓	—	A factor (AFTanker, Shuttle) representing the correction applied to shuttle tankers with dynamic positioning (DP) systems, as specified in paragraph 4.2 of the applicable CII calculation guidelines.	–	0.30000
	CompanyIMO	—	Number(7)	—	✓	—	The unique company identification number shown in the Continuous Synopsis Record (CSR).	–	9876543
	CompanyRole	—	Text	—	✓	—	A code providing the role of the ship company.	Code List: BAC | Bareboat charterer – A company chartering the ship for the agreed period without crew, stores, insurance, or any other provision (a "bare" boat). COM | Commercial manager- responsible for the employment for the ship with	ISM

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
								regard to charter parties or other contracts. CRW | Crew manager – responsible for providing suitable qualified crew who shall comply with the requirements of STCW95. IMO | IMO Company – company shown in the CSR (Compendium definition). ISM | ISM company - as defined in SOLAS regulation IX-1.2. ISPS | ISPS company – as defined in SOLAS regulation XI-2/1.1.7. MLC | MLC shipowner – as defined in MLC/2006 Art.II 1(j). ROW | Registered owner- the owner specified on the ship's certificate of registry issued by an Administration, as referred to by SOLAS regulation XI-1/5.6. TEC | Technical manager – responsible for ensuring that the ship complies with the requirements of the law of the flag State. TIC | Time charterer - A company chartering the ship for a defined period of time with everything arranged, e.g. crew and insurances. VOC | Voyage charterer – A company chartering the ship for a one-way voyage between specific ports with a specified cargo at a negotiated rate of freight.	
	CompanyName	—	Text	—	✓	—	The name of the Company.	–	NK Lines Ltd.
Voyage/Leg Information	**From**	—	YYYY-MM-DD HH:mm	YYYY-MM-DD HH:mm	✓	✓	The start date and time of a Period or LegPart (UTC).	–	2025-06-17 20:00
	To	—	YYYY-MM-DD HH:mm	YYYY-MM-DD HH:mm	✓	✓	The end date and time of a Period or LegPart (UTC).	–	2025-07-09 02:15
	FromUNLOCODE	—	Text(5)	—	✓	✓	The code representing the port from which the ship departs.	UN/LOCODE https://unece.org/trade/cefact/unlocode-code-list-country-and-territory	BEZEE
	FromName	—	Text	—	✓	✓	A name and country of the port from which the ship departs.	–	Zeebrugge
	EUETS_FromPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a From-port of call according to the reporting scheme for EUETS	Yes/no indicator (1=yes, 0=no)	1
	FuelEU_FromPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a From-port of call according to the reporting scheme for FuelEU	Yes/no indicator (1=yes, 0=no)	1

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
	UKETS_FromPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a From-port of call according to the reporting scheme for UKETS	Yes/no indicator (1=yes, 0=no)	1
	ToUNLOCODE	—	Text(5)	—	✓	✓	A code representing the port where the ship arrives.	UN/LOCODE https://unece.org/trade/cefact/unlocode-code-list-country-and-territory	DEEME
	ToName	—	Text	—	✓	✓	The name and country of the port where the ship arrives.	–	Emden
	EUETS_ToPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a To-port of call according to the reporting scheme for EUETS	Yes/no indicator (1=yes, 0=no)	1
	FuelEU_ToPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a To-port of call according to the reporting scheme for FuelEU	Yes/no indicator (1=yes, 0=no)	1
	UKETS_ToPortOfCall	—	Boolean	—	—	✓	A "yes/no" indicator whether the port is a To-port of call according to the reporting scheme for UKETS	Yes/no indicator (1=yes, 0=no)	1
	Exclusion	From	YYYY-MM-DD HH:mm	—	✓	—	The VER exclusion start date and time of the emission time period.	–	[{ "From":"2025-06-19 13:10" , "To":"2025-06-21 19:55" , "ExclusionDesc":"Emergency at sea" }]
		To	YYYY-MM-DD HH:mm	—			The VER exclusion end date and time of the emission time period.	–	
		ExclusionDesc	Text	—			Description of the reason of the exclusion part in a emission time period, like drydock, repair, off-hire or other comercially.	–	
	Excluded	—	Boolean	—	—	✓	A "yes/no" indicator whether the emission time period contains exclusion like offhire and other commercial exclusions	Yes/no indicator (1=yes, 0=no)	1
	EUETS_CoverageRatio	—	Number (percentage)	%	—	✓	Ratio of emissions or energy falling under the regulatory scope, as applicable with regards to EUETS	–	0
	FuelEU_CoverageRatio	—	Number (percentage)	%	—	✓	Ratio of emissions or energy falling under the regulatory scope, as applicable with regards to FuelEU	–	100
	UKETS_CoverageRatio	—	Number (percentage)	%	—	✓	Ratio of emissions or energy falling under the regulatory scope, as applicable with regards to UKETS	–	50
	EUETS_Description	—	Text	—	—	✓	Description of the leg for the application of the regulatory emission or energy coverage ratio as applicable with regards to EUETS	–	At EU port
	FuelEU_Description	—	Text	—	—	✓	Description of the leg for the application of the regulatory emission or energy coverage ratio as applicable with regards to FuelEU	–	At EU port
	UKETS_Description	—	Text	—	—	✓	Description of the leg for the application of the regulatory emission or energy coverage ratio as applicable with regards to UKETS	–	At non-UK port
	Mode	—	Text	—	—	✓	A code representing a simplified mode	Code list: AtSea | From-Port to To-Port InPort | To-port to From-Port	AtSea
	CargoCarried	—	Number with 3 decimals	tons	✓	✓	the total cargo carried by the vessel per voyage leg during the reporting period, in tonnes.	–	6529.600
	TransportWork	—	Number with 3 decimals	ton.km	✓	✓	The product of distance sailed and cargo carried in tonne kilometers (tonne-km).	–	150973472.132
	Distance	—	Number with 5 decimals	nm	✓	✓	The distance traveled within the time elapsed, over ground measured in nautical miles.	–	400.00000
	DistanceExcluded_CII_Dx	—	Number with 5 decimals	nm	✓	✓	The distance which may be excluded for reporting correction. Over ground distance measured in nautical miles.	–	0.00000
	Distance_FuelEU_Scope	—	Number with 5 decimals	nm	✓	✓	The distance traveled within the time elapsed, over ground measured in nautical miles, according to FuelEU	–	0.00000
	Distance_FuelEU_Reduced	—	Number with 5 decimals	nm	✓	✓	The distance which may be reduced for reporting correction. Over ground distance measured in nautical miles, according to FuelEU	–	0.00000
	Distance_FuelEU_InIce_Reduced	—	Number with 5 decimals	nm	✓	✓	The distance in ice which may be reduced for reporting correction. Over ground distance measured in nautical miles, according to FuelEU	–	0.00000

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
	Distance_EUETS_Scope	—	Number with 5 decimals	nm	✓	✓	The distance traveled within the time elapsed, over ground measured in nautical miles, according to EUETS	–	0.00000
	Distance_UKETS_Scope	—	Number with 5 decimals	nm	✓	✓	The distance traveled within the time elapsed, over ground measured in nautical miles, according to UKETS	–	0.00000
	VoyageID	—	Text	—	—	✓	An operator-assigned reference code for the ship's voyage.	–	voyage1

Fuel Consumption	**IMOCII_Consumption**	FuelType	Text	—	✓	✓	A code representing the type of bunkered fuel	Code List:
								
								Ethane | Ethane
								Ethanol | Ethanol
								HFO | Heavy Fuel Oil
								LBG | Liquefied Biogas, Bio-LNG
								LFO | Light Fuel Oil
								LNG | Liquefied Natural Gas
								LNGBO | LNG boil-off cargo used as fuel
								LNGN2 | Deducted portion of Nitrogen from LNG Fuel
								LPG | Liquefied Petroleum Gas
								LPGB | Liquefied Petroleum Gas, Butane
								LPGP | Liquefied Petroleum Gas, Propane
								LSHFO | Low Sulfur Heavy Fuel Oil
								LSLFO | Low Sulfur Fuel Oil
								LSMGO | Low Sulfur Marine Gas Oil
								MDO | Marine Diesel Oil
								Methanol | Methanol
								MGO | Marine Gas Oil
								Other | Other fuels type name
								ULSFO2020 | HFO w/ a sulphur content of 0.1% or below
								ULSLFO2020 | LFO w/ a sulphur content of 0.1% or below
								ULSMDO2020 | MDO w/ a sulphur content of 0.1% or below
								ULSMGO2020 | MGO w/ a sulphur content of 0.1% or below
								VLSFO | Very Low Sulfur Fuel Oil
								VLSFO2020 | HFO w/ a sulphur content between 0.1% and 0.5%
								VLSLFO2020 | LFO w/ a sulphur content between 0.1% and 0.5%
									[
									{
									"FuelType":"MGO"
									, "Consumer":"ME1"
									, "CH4_slip":1.7,
									, "FOC_Before_Reductions": 5.000000
									, "FOC_Reductions": 1.000000
									, "FOC":4.000000
									, "OPS":0
									, "FCvoyage":0
									, "FCelectrical":0
									, "FCboiler":0
									, "FCothers":0
									, "TFj":0
									, "FuelLCV":42.7000
									, "FuelCfCO2":3.206,
									}
									]

		Consumer	Text	—			A code representing the type of consumer	Code List: ME1, ME2, ME3 | Main Engine AE1, AE2, AE3, AE4, AE5 | Auxiliary Engine B1, B2 | Boiler INC1 | Incinerator IGG1 | Inert gas generators / GCUs OTH1, OTH2, OTH3, OTH4, OTH5 | Other Fuel Consuming Devices	
		CH4_slip	Number with 1 decimal	%			The quantity of methane emitted unburnt (“methane slip”), from the LNG-fuelled consumer, expressed as a proportion of the fuel consumed.	–	
		FOC_Before_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, which is before reductions.	–	
		FOC_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, whici is reduced.	–	
		FOC	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes.	–	

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
		OPS	Number with 5 decimals	kWh			Amount of electrical power received from on-shore power supply when in port, measured in kilowatt-hours.	–	
		FCvoyage	Number	mt			Mass of fuel (per fuel type) consumed which may be deducted from the calculation of the attained CII in exceptional conditions specified in Regulation 3.1 of MARPOL Annex VI which may endanger safe navigation or sailing in ice conditions, which means sailing of an ice-classed ship in a sea area within the ice edge according to paragraph 4.1 of the IMO CII Guideline G5, measured in metric tonnes	–	
		FCelectrical	Number	mt			Mass of fuel (per fuel type) consumed for production of electrical power which is allowed to be deducted according to paragraph 4.3 of the IMO CII Guideline G5, measured in metric tonnes	–	
		FCboiler	Number	mt			Mass of fuel (per fuel type) consumed by the boiler which may deducted according to paragraph 4.4 of the IMO CII Guideline G5, measured in metric tonnes.	–	
		FCothers	Number	mt			Mass of fuel (per fuel type) consumed by other fuel consumption devices, which may be deducted according to paragraph 4.5 of the IMO CII Guideline G5, measured in metric tonnes.	–	
		TFj	Number	mt			Mass of fuel (per fuel type) removed for STS or shuttle tanker operation according to paragraph 4 of the CII Guidelines G5, in metric tonnes.	–	
		FuelLCV	Number with 4 decimals	MJ/kgFuel			The absolute quantity of energy released after burning a unit mass of fuel, measured in megajoules per kilogram.	–	
		FuelCfCO2	Number with 3 decimals	gCO2/gFuel			A Carbon Dioxide (CO2) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
	EUETS_Consumption	FuelType	Text	—	✓	✓	A code representing the type of bunkered fuel	As per IMOCII_Consumption / FuelType.	[{ "FuelType":"MGO" , "Consumer":"ME1" , "CH4_slip":1.7 , "FOC_Before_Reductions": 5.000000 , "FOC_Reductions": 1.000000 , "FOC":4.000000 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 }]
		Consumer	Text	—			A code representing the type of consumer	Code List: ME1, ME2, ME3 | Main Engine AE1, AE2, AE3, AE4, AE5 | Auxiliary Engine B1, B2 | Boiler INC1 | Incinerator IGG1 | Inert gas generators / GCUs OTH1, OTH2, OTH3, OTH4, OTH5 | Other Fuel Consuming Devices	
		CH4_slip	Number with 1 decimal	%			The quantity of methane emitted unburnt (“methane slip”), from the LNG-fuelled consumer, expressed as a proportion of the fuel consumed.	–	
		FOC_Before_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, which is before reductions.	–	
		FOC_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, whici is reduced.	–	
		FOC	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes.	–	
		FuelLCV	Number with 4 decimals	MJ/kgFuel			The absolute quantity of energy released after burning a unit mass of fuel, measured in megajoules per kilogram.	–	
		FuelCfCO2	Number with 3 decimals	gCO2/gFuel			A Carbon Dioxide (CO2) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
		FuelCfCH4	Number with 5 decimals	gCH4/gFuel			A methane (CH4) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCH4/gFuel).	–	
		FuelCfN2O	Number with 5 decimals	gN2O/gFuel			A Nitrous Oxide (N2O) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gN2O/gFuel).	–	

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
		FuelCfCO2eq	Number with 5 decimals	gCO2eq/gFuel			A Carbon Dioxide equivalent (CO2eq) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
	FuelEU_Consumption	FuelType	Text	—	✓	✓	A code representing the type of bunkered fuel	As per IMOCII_Consumption / FuelType.	[{ "FuelType":"MGO" , "Consumer":"ME1" , "CH4_slip":1.7 , "FOC_Before_Reductions": 5.000000 , "FOC_Reductions": 1.000000 , "FOC":4.00 , "OPS":0 , "Energy":170800 , "Allocated_Energy":170800 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 , "Evalue":"" }]
		Consumer	Text	—			A code representing the type of consumer	Code List: ME1, ME2, ME3 | Main Engine AE1, AE2, AE3, AE4, AE5 | Auxiliary Engine B1, B2 | Boiler INC1 | Incinerator IGG1 | Inert gas generators / GCUs OTH1, OTH2, OTH3, OTH4, OTH5 | Other Fuel Consuming Devices	
		CH4_slip	Number with 1 decimal	%			The quantity of methane emitted unburnt (“methane slip”), from the LNG-fuelled consumer, expressed as a proportion of the fuel consumed.	–	
		FOC_Before_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, which is before reductions.	–	
		FOC_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, whici is reduced.	–	
		FOC	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes.	–	
		OPS	Number with 5 decimals	kWh			Amount of electrical power received from on-shore power supply when in port, measured in kilowatt-hours.	–	
		Energy	Number with 5 decimals	MJ			The energy consumed value, in accordance with the applicable emission lifecycle, for the emission time period, prior to allocation to the applicable emission scope and prior to all exclusions, adjustments and deductions, measured in mega-joule (MJ).	–	
		Allocated_Energy	Number with 5 decimals	MJ			The energy consumed value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, subject to application and all exclusions, adjustments and deductions, measured in mega-joule (MJ)	–	
		FuelLCV	Number with 4 decimals	MJ/kgFuel			The absolute quantity of energy released after burning a unit mass of fuel, measured in megajoules per kilogram.	–	
		FuelCfCO2	Number with 3 decimals	gCO2/gFuel			A Carbon Dioxide (CO2) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
		FuelCfCH4	Number with 5 decimals	gCH4/gFuel			A methane (CH4) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCH4/gFuel).	–	
		FuelCfN2O	Number with 5 decimals	gN2O/gFuel			A Nitrous Oxide (N2O) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gN2O/gFuel).	–	
		FuelCfCO2eq	Number with 5 decimals	gCO2eq/gFuel			A Carbon Dioxide equivalent (CO2eq) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
		Evalue	Number with 2 decimals	gCO2eq/MJ			A Carbon Dioxide equivalent (CO2eq) emissions value as indicated at the fuel certificate, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per mega-joule (gCO2eq/MJ).	–	
	UKETS_Consumption	FuelType	Text	—	✓	✓	A code representing the type of bunkered fuel	As per IMOCII_Consumption / FuelType.	[{ "FuelType":"MGO", , "Consumer":"ME1" , "CH4_slip":1.7
		Consumer	Text	—			A code representing the type of consumer	Code List: ME1, ME2, ME3 | Main Engine	

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
								AE1, AE2, AE3, AE4, AE5 | Auxiliary Engine B1, B2 | Boiler INC1 | Incinerator IGG1 | Inert gas generators / GCUs OTH1, OTH2, OTH3, OTH4, OTH5 | Other Fuel Consuming Devices	, "FOC_Before_Reductions": 5.000000 , "FOC_Reductions": 1.000000 , "FOC":4.000000 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 }]
		CH4_slip	Number with 1 decimal	%			The quantity of methane emitted unburnt (“methane slip”), from the LNG-fuelled consumer, expressed as a proportion of the fuel consumed.	–	
		FOC_Before_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, which is before reductions.	–	
		FOC_Reductions	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes, whici is reduced.	–	
		FOC	Number with 6 decimals	mt			Mass of fuel type consumed, measured in metric tonnes.	–	
		FuelLCV	Number with 4 decimals	MJ/kgFuel			The absolute quantity of energy released after burning a unit mass of fuel, measured in megajoules per kilogram.	–	
		FuelCfCO2	Number with 3 decimals	gCO2/gFuel			A Carbon Dioxide (CO2) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
		FuelCfCH4	Number with 5 decimals	gCH4/gFuel			A methane (CH4) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCH4/gFuel).	–	
		FuelCfN2O	Number with 5 decimals	gN2O/gFuel			A Nitrous Oxide (N2O) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gN2O/gFuel).	–	
		FuelCfCO2eq	Number with 5 decimals	gCO2eq/gFuel			A Carbon Dioxide equivalent (CO2eq) emission conversion factor, in accordance with the applicable emission scope and emission lifecycle, expressed in emissions per metric per gram (gCO2/gFuel).	–	
GHG information	**IMOCII_Emissions_TtW_CO2**	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	452.09600
	EUETS_Emissions_TtW_CO2	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	826.16000
	EUETS_Emissions_TtW_CH4	—	Number with 5 decimals	mt	✓	✓	Methane (CH4) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	EUETS_Emissions_TtW_N2O	—	Number with 5 decimals	mt	✓	✓	Nitrous Oxide (N2O) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	EUETS_Emissions_TtW_CO2eq	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) equivalent emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, including conversion of the other GHG (CH4 and N2O) to CO2 equivalent, measured in metric tons.	–	826.16000
	FuelEU_Emissions_TtW_CO2	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	452.09600
	FuelEU_Emissions_TtW_CH4	—	Number with 5 decimals	mt	✓	✓	Methane (CH4) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	FuelEU_Emissions_TtW_N2O	—	Number with 5 decimals	mt	✓	✓	Nitrous Oxide (N2O) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
	FuelEU_Emissions_WtT_CO2	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	452.09600
	FuelEU_Emissions_WtT_CH4	—	Number with 5 decimals	mt	✓	✓	Methane (CH4) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	FuelEU_Emissions_WtT_N2O	—	Number with 5 decimals	mt	✓	✓	Nitrous Oxide (N2O) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	FuelEU_Emissions_WtT_CO2eq	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) equivalent emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, including conversion of the other GHG (CH4 and N2O) to CO2 equivalent, measured in metric tons.	–	452.09600
	FuelEU_Emissions_WtW_CO2eq	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) equivalent emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, including conversion of the other GHG (CH4 and N2O) to CO2 equivalent, measured in metric tons.	–	452.09600
	UKETS_Emissions_TtW_CO2	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	UKETS_Emissions_TtW_CH4	—	Number with 5 decimals	mt	✓	✓	Methane (CH4) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	UKETS_Emissions_TtW_N2O	—	Number with 5 decimals	mt	✓	✓	Nitrous Oxide (N2O) emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, measured in metric tons.	–	0.00000
	UKETS_Emissions_TtW_CO2eq	—	Number with 5 decimals	mt	✓	✓	Carbon Dioxide (CO2) equivalent emissions value, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, including conversion of the other GHG (CH4 and N2O) to CO2 equivalent, measured in metric tons.	–	0.00000
	IMOCII_TransportWork_BeforeCorr	—	Number with 3 decimals	DWT.nm or GT.nm as applicable	✓	✓	Supply-based transport work (Ws), before application of the corrections, can be taken as a proxy, which is defined as the product of a ship's capacity and the distance travelled, expressed in DWT nautical miles or Gross Tonnage nautical miles, as applicable.	–	28000000.000
	IMOCII_TransportWork	—	Number with 3 decimals	DWT.nm or GT.nm as applicable	✓	✓	Supply-based transport work (Ws) can be taken as a proxy, which is defined as the product of a ship's capacity and the distance travelled, expressed in DWT nautical miles or Gross Tonnage nautical miles, as applicable.	–	28000000.000
	IMOCII_Attained_BeforeCorr	—	Number with 3 decimals	gCO2/DWTnm or gCO2/GTnm	✓	✓	Attained carbon intensity before application of the corrections for the emission time period, expressed in gram of CO2 emissions per DWT (or GT) and nautical miles (gCO2/DWTnm or gCO2/GTnm).	–	15.690
	IMOCII_Attained	—	Number with 3 decimals	gCO2/DWTnm or gCO2/GTnm	✓	✓	Attained carbon intensity after application of the corrections for the emission time period, expressed in gram of CO2 emissions per DWT (or GT) and nautical miles (gCO2/DWTnm or gCO2/GTnm).	–	15.690
	IMOCII_Required	—	Number with 3 decimals	gCO2/DWTnm or gCO2/GTnm	✓	✓	Required operational carbon intensity, specific to the ship design and year of the emissions, expressed in gram of CO2 emissions per DWT (or GT) and nautical miles (gCO2/DWTnm or gCO2/GTnm).	–	18.000
	IMOCII_Required_d1	—	Number with 2 decimals	—	✓	✓	The value of the rating boundary vector d1, as defined in the applicable IMO guidelines on the operational carbon intensity rating of ships, used to determine the boundary between rating A and rating B.	–	0.86
	IMOCII_Required_d2	—	Number with 2 decimals	—	✓	✓	The value of the rating boundary vector d2, as defined in the applicable IMO guidelines on the operational carbon intensity rating of ships, used to determine the boundary between rating B and rating C.	–	0.94
	IMOCII_Required_d3	—	Number with 2 decimals	—	✓	✓	The value of the rating boundary vector d3, as defined in the applicable IMO guidelines on the operational carbon intensity rating of ships, used to determine the boundary between rating C and rating D.	–	1.06

Data Category	Data Item	Component	Data Type	Unit	Period	Leg Part	Description	Code list	Example
	IMOCII_Required_d4	—	Number with 2 decimals	—	✓	✓	The value of the rating boundary vector d4, as defined in the applicable IMO guidelines on the operational carbon intensity rating of ships, used to determine the boundary between rating D and rating E.	–	1.18
	IMOCII_Rating_BeforeCorr	—	Text(1)	—	✓	✓	A capital letter from A to E representing the operational Carbon intensity rating before application of the corrections for the emission time period, specific to the year of the emissions.	–	B
	IMOCII_Rating	—	Text(1)	—	✓	✓	A capital letter from A to E representing the operational Carbon intensity rating for the emission time period, specific to the year of the emissions.	–	B
	EUETS_Allowance	—	Number with 2 decimals	—	✓	✓	The allowances to be surrendered for the emission time period, in accordance with the applicable emission scope.	–	586.20
	UKETS_Allowance	—	Number with 2 decimals	—	✓	✓	The allowances to be surrendered for the emission time period, in accordance with the applicable emission scope.	–	0.00
	FuelEU_GHGIntensity	—	Number with 5 decimals	gCO2eq/MJ	✓	✓	GHG intensity, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, expressed in gram of emissions per mega-joule (gCO2eq/MJ)	–	85.20000
	FuelEU_ComplianceBalance	—	Number with 2 decimals	g	✓	✓	The GHG compliance balance before application of flexibility mechanism, in accordance with the applicable emission scope and emission lifecycle, for the emission time period, expressed in grams of CO2 equivalent.	–	-94421.93
	FuelEU_Penalties	—	Number with 2 decimals	€	✓	✓	The GHG penalties cost estimated before application of flexibility mechanism, in accordance with the applicable emission scope, for the emission time period, where the compliance balance is negative, expressed in the specified currency. A compliance surplus is not expressed as a monetary amount and shall be reported as zero.	–	0.00
Verification	**VERIssuerName**	—	Text	—	✓	✓	The name of the company issuing the VER	–	ClassNK
	VERAssessment	—	Text	—	✓	✓	A code representing the type of conformity assessment applied to the VER, indicating whether the assessment is performed as first-party, second-party, or third-party in accordance with ISO 17000.	Code list Maintained by IMO 1stParty | First-party conformity assessment] as defined in ISO 17000 [2.2] 2ndParty | Second-party conformity assessment] as defined in ISO 17000 [2.3] 3rdParty | Third-party conformity assessment] as defined in ISO 17000 [2.3]	Third-party
	IMOCII_VERIssuerAccreditation	—	Boolean	—	✓	✓	A "yes/no" indicator whether the issuer of the VER is an accredited verifier according to IMOCII.	Yes/no indicator (1=yes, 0=no)	1
	EUETS_VERIssuerAccreditation	—	Boolean	—	✓	✓	A "yes/no" indicator whether the issuer of the VER is an accredited verifier according to EUETS.	Yes/no indicator (1=yes, 0=no)	1
	FuelEU_VERIssuerAccreditation	—	Boolean	—	✓	✓	A "yes/no" indicator whether the issuer of the VER is an accredited verifier according to FuelEU.	Yes/no indicator (1=yes, 0=no)	1
	UKETS_VERIssuerAccreditation	—	Boolean	—	✓	✓	A "yes/no" indicator whether the issuer of the VER is an accredited verifier according to UKETS.	Yes/no indicator (1=yes, 0=no)	1
	ValidationStatus	—	Boolean	—	✓	✓	A "yes/no" indicator whether the VER has been validated as per definition given in ISO 14064-3 [3.6.3]: process for evaluating the reasonableness of the assumptions, limitations and methods that support a statement about the outcome of future activities.	Yes/no indicator (1=yes, 0=no)	1
	VerificationStatus	—	Boolean	—	✓	✓	A "yes/no" indicator whether the VER has been verified as per definition given in ISO 14064-3 [3.6.2]: process for evaluating a statement of historical data and information to determine if the statement is materially correct and conforms to criteria.	Yes/no indicator (1=yes, 0=no)	1

Table 4-2 Code lists implied by the column naming convention

The reporting scheme and emission lifecycle are encoded in the column name rather than carried as separate data items. The code lists below define the permitted values used in those column names.

Code list	Values
Emission time range, coded	Period Legpart
Maritime Emission Reporting scheme, coded	IMOCII | IMO Data Collection System (DCS) and Carbon Intensity Index (CII) reporting EUETS | EU Monitoring Reporting Verification (MRV) and Emission Trading System (ETS) reporting FuelEU | FuelEU Maritime reporting UKETS | UK Emission Trading System (ETS) reporting
Emission lifecycle, coded	WtT | Well-to-Tank TtW | Tank-to-Wake WtW | Well-to-Wake

5. Process Rule

This version of the standard covers the principal data items associated with the regulatory schemes currently in force, viewed from the output side as a VER. It is issued as Version 1 and is expected to develop further as regulations progress and as the industry accumulates practical experience with the format.

5.1 Revision and Approval of format

The body responsible for maintaining and approving changes to this standard has not yet been determined. Candidates under consideration include the JIWG and other neutral consortia or organisations. Whichever body is ultimately selected, the parties to this document will ensure that maintenance and operation of the standard are carried out on a continuing basis. The approval procedure, the version numbering scheme and the policy for effective dates will be defined once the governing body has been established.

5.2 Updates from Regulation and Practice, and Alignment with IMO Compendium

The format will be revised as required when regulatory requirements change or when new schemes come into effect. In parallel, feedback from industry grounded in actual use cases will be collected and carefully assessed, and improvements identified through that process will be incorporated in subsequent versions. Version 1 deliberately confines itself to the principal items associated with the regulations currently in force; any extension beyond that scope will be driven by this feedback. Once the format has stabilised through practical use and accumulated use cases in the industry, the data items will be submitted for alignment with the IMO Compendium. Arrangements for transition periods and backward compatibility will be defined together with the version numbering policy referred to in 5.1.

5.3 Latest Document Storage

The current version of this standard is published on the BIMCO website at **[URL to be inserted]**. The archival policy for superseded versions, together with access rights and the distribution mechanism, will be defined once the governance structure is in place.

Addendum 3.4

Example 1 — EU/UK port-call voyage with partial scheme coverage

	Identifier	ParentIdentifier	IMO	ShipName	ShipFlag	ShipTypeIMO	ShipTypeMARPOLVI	ShipTypeEUMRV
Period	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798		1234567	NK Cargo Ship	PA	Bulk carrier	Bulk carrier	Cargo ship
Leg Part 1	a87296b2fa2d2d799f4722b03d8eda62a781913e229a3057bad405e041d91f51	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798						
Leg Part 2	891917ff5af27d23de93c39a451fe590178e9a90e6e2b3d289ee307c1e0596e8	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798						
Leg Part 3	498e4bf708d2c08788e1b6433a5bf57b567f1f4a08b71f032b7ab42b7a985705	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798						
Leg Part 4	c4c3890fe52ea851a85871528711ff036276bd21ec6da66eb9ab0423fb03bc14	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798						
Leg Part 5	869f4a5d196ecd4e3f7abfbe242ad37b0ea29b0b9a6ab3d2a8f41da51ac4c41a	fd21e6da7c60be105387252ec343b0adef5db23348ea6ab2cd04144597690798						

Example 1 (continued)

	ShipDWT	ShipGT	ShipIceClass	ShipFwind	ShipFi	ShipFm	ShipFc	ShipFi_VSE
Period	20000.000	30000.000	NO	0.97	1.0000	1.00	1.00000	1.000
Leg Part 1								
Leg Part 2								
Leg Part 3								
Leg Part 4								
Leg Part 5								

Example 1 (continued)

	ShipAFTanker_STS	ShipAFTanker_Shuttle	CompanyIMO	CompanyRole	CompanyName	From	To	FromUNLOCODE
Period	0.00000	0.00000	9876543	ISM	NK Lines Ltd.	2025-06-15 00:00	2025-07-15 00:00	BEZEE
Leg Part 1						2025-06-17 20:00	2025-06-19 03:10	BEZEE
Leg Part 2						2025-06-19 03:10	2025-06-19 13:10	DEEME
Leg Part 3						2025-06-19 13:10	2025-06-21 19:55	DEEME
Leg Part 4						2025-06-21 19:55	2025-06-24 00:45	DEBRV
Leg Part 5						2025-06-24 00:45	2025-07-09 02:15	DEBRV

Example 1 (continued)

	FromName	EUETS_FromPortOfCall	FuelEU_FromPortOfCall	UKETS_FromPortOfCall	ToUNLOCODE	ToName	EUETS_ToPortOfCall	FuelEU_ToPortOfCall
Period	Zeebrugge				GBSOU	Southampton		
Leg Part 1	Zeebrugge	1	1	0	DEEME	Emden	1	1
Leg Part 2	Emden	1	1	0	DEEME	Emden	1	1
Leg Part 3	Emden	1	1	0	DEBRV	Bremerhaven	1	1
Leg Part 4	Bremerhaven	1	1	0	DEBRV	Bremerhaven	1	1
Leg Part 5	Bremerhaven	1	1	0	GBSOU	Southampton	0	0

Example 1 (continued)

	UKETS_ToPortOfCall	Exclusion	Excluded	EUETS_CoverageRatio	FuelEU_CoverageRatio	UKETS_CoverageRatio	EUETS_Description	FuelEU_Description
Period		[{ "From":"2025-06-19 13:10", "To":"2025-06-21 19:55", "ExclusionDesc":"Emergency at sea" }, { "From":"2025-06-21 19:55", "To":"2025-06-24 00:45", "ExclusionDesc":"Drydock" }]						
Leg Part 1	0		0	100	100	0	Voyage between EU ports	Voyage between EU ports
Leg Part 2	0		0	100	100	0	At EU port	At EU port
Leg Part 3	0		1	100	100	0	Voyage between EU ports	Voyage between EU ports
Leg Part 4	0		1	100	100	0	At EU port	At EU port
Leg Part 5	1		0	50	50	50	Voyage from EU port	Voyage from EU port

Example 1 (continued)

	UKETS_Description	Mode	CargoCarried	TransportWork	Distance	DistanceExcluded_CII_Dx	Distance_FuelEU_Scope	Distance_FuelEU_Reduced
Period			14772.100	20102237.680	1700.00000	300.00000	0.00000	0.00000
Leg Part 1	Voyage outside UK scope	AtSea	6529.600	4837127.680	400.00000	0.00000	0.00000	0.00000
Leg Part 2	At non-UK port	InPort	0.000	0.000	0.00000	0.00000	0.00000	0.00000
Leg Part 3	Voyage outside UK scope	AtSea	7210.600	0.000	300.00000	300.00000	0.00000	0.00000
Leg Part 4	At non-UK port	InPort	0.000	0.000	0.00000	0.00000	0.00000	0.00000
Leg Part 5	Voyage to UK port	AtSea	8242.500	15265110.000	1000.00000	0.00000	0.00000	0.00000

Example 1 (continued)

	Distance_FuelEU_InIce_Reduced	Distance_EUETS_Scope	Distance_UKETS_Scope	VoyageID	IMOCII_Consumption	EUETS_Consumption	FuelEU_Consumption	UKETS_Consumption
Period	0.00000	0.00000	0.00000		[{ "FuelType":"MGO", "Consumer":"AE1", "CH4_slip":0.0, "FOC_Before_Reductions":12.000000	[{ "FuelType":"MGO", "Consumer":"AE1", "CH4_slip":0.0, "FOC_Before_Reductions":12.000000	[{ "FuelType":"MGO", "Consumer":"AE1", "CH4_slip":0.0, "FOC_Before_Reductions":12.000000	[{ "FuelType":"MGO", "Consumer":"AE1", "CH4_slip":0.0, "FOC_Before_Reductions":12.000000

	Distance_FuelEU_InIce_Reduced	Distance_EUETS_Scope	Distance_UKETS_Scope	VoyageID	IMOCII_Consumption	EUETS_Consumption	FuelEU_Consumption	UKETS_Consumption

					, "FOC_Reductions":0.000000
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					, "FCelectrical":0
					, "FCboiler":0
					, "FCothers":0
					, "TFj":0
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					, "FuelCfCO2":3.206
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Leg Part 1	0.00000	0.00000	0.00000	voyage1	[
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	Distance_FuelEU_InIce_Reduced	Distance_EUETS_Scope	Distance_UKETS_Scope	VoyageID	IMOCII_Consumption	EUETS_Consumption	FuelEU_Consumption	UKETS_Consumption
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Leg Part 3	0.00000	0.00000	0.00000	voyage3	[
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								]

Leg Part 4	0.00000	0.00000	0.00000	voyage4	[{ "FuelType":"MGO" , "Consumer":"AE1" , "CH4_slip":0.0	[{ "FuelType":"MGO" , "Consumer":"AE1" , "CH4_slip":0.0	[{ "FuelType":"MGO" , "Consumer":"AE1" , "CH4_slip":0.0	[{ "FuelType":"MGO" , "Consumer":"AE1" , "CH4_slip":0.0

	Distance_FuelEU_InIce_Reduced	Distance_EUETS_Scope	Distance_UKETS_Scope	VoyageID	IMOCII_Consumption	EUETS_Consumption	FuelEU_Consumption	UKETS_Consumption
					"FOC_Before_Reductions":4.000000 , "FOC_Reductions":0.000000 , "FOC":4.000000 , "OPS":0 , "FCvoyage":0 , "FCelectrical":0 , "FCboiler":0 , "FCothers":0 , "TFj":0 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 }]	"FOC_Before_Reductions":4.000000 , "FOC_Reductions":0.000000 , "FOC":4.000000 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 }]	"FOC_Before_Reductions":4.000000 , "FOC_Reductions":0.000000 , "FOC":4.000000 , "OPS":0 , "Energy":170800.00000 "Allocated_Energy":170800.00000 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 , "Evalue":"" }]	"FOC_Before_Reductions":4.000000 , "FOC_Reductions":0.000000 , "FOC":4.000000 , "FuelLCV":42.7000 , "FuelCfCO2":3.206 , "FuelCfCH4":0.00000 , "FuelCfN2O":0.00000 , "FuelCfCO2eq":3.20600 }]

Leg Part 5	0.00000	0.00000	0.00000	voyage5	[
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					, "CH4_slip":0.0
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					, "FCelectrical":0
					, "FCboiler":0
					, "FCothers":0
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					, "FuelCfCO2":3.206
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					{
					"FuelType":"HFO"
					, "Consumer":"ME1"
					, "CH4_slip":0.0
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					, "FOC_Reductions":0.000000
					, "FOC":60.000000
					, "OPS":0
					, "FCvoyage":0
					, "FCelectrical":0
					, "FCboiler":0
					, "FCothers":0
					, "TFj":0
					, "FuelLCV":40.2000
					, "FuelCfCO2":3.114
					},
					{
					"FuelType":"BIO-D"
					, "Consumer":"ME1"
					, "CH4_slip":0.0
					"FOC_Before_Reductions":20.000000
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					, "OPS":0
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					, "FCboiler":0
					, "FCothers":0
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					, "FuelCfCO2":3.206
					}
					]
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						, "FuelCfCH4":0.00000
						, "FuelCfN2O":0.00000
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							{
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							, "FuelCfCH4":0.00000
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							, "FuelCfCO2eq":3.20600
							, "Evalue":""
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							, "Consumer":"ME1"
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							, "OPS":0
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							"Allocated_Energy":1206000.00000
							, "FuelLCV":40.2000
							, "FuelCfCO2":3.114
							, "FuelCfCH4":0.00000
							, "FuelCfN2O":0.00000
							, "FuelCfCO2eq":3.11400
							, "Evalue":""
							},
							{
							"FuelType":"BIO-D"
							, "Consumer":"ME1"
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							, "FOC":20.000000
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							, "FuelCfCH4":0.00000
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								, "FuelCfCO2":3.206
								, "FuelCfCH4":0.00000
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								, "FuelCfCO2eq":3.20600
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								, "CH4_slip":0.0
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								, "FuelCfCH4":0.00000
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								, "FuelCfCO2eq":3.11400
								},
								{
								"FuelType":"BIO-D"
								, "Consumer":"ME1"
								, "CH4_slip":0.0
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								, "FuelLCV":37.2000
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								, "FuelCfCH4":0.00000
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								, "FuelCfCO2eq":0.00000
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								]

Example 1 (continued)

	IMOCII_Emissions_TtW_CO2	EUETS_Emissions_TtW_CO2	EUETS_Emissions_TtW_CH4	EUETS_Emissions_TtW_N2O	EUETS_Emissions_TtW_CO2eq	FuelEU_Emissions_TtW_CO2	FuelEU_Emissions_TtW_CH4	FuelEU_Emissions_TtW_N2O
Period	476.27200	312.32000	0.00000	0.00000	312.32000	312.32000	0.00000	0.00000
Leg Part 1	199.66400	199.66400	0.00000	0.00000	199.66400	199.66400	0.00000	0.00000
Leg Part 2	12.82400	12.82400	0.00000	0.00000	12.82400	12.82400	0.00000	0.00000
Leg Part 3	199.66400	199.66400	0.00000	0.00000	199.66400	199.66400	0.00000	0.00000
Leg Part 4	12.82400	12.82400	0.00000	0.00000	12.82400	12.82400	0.00000	0.00000
Leg Part 5	263.78400	99.83200	0.00000	0.00000	99.83200	99.83200	0.00000	0.00000

Example 1 (continued)

	FuelEU_Emissions_WtT_CO2	FuelEU_Emissions_WtT_CH4	FuelEU_Emissions_WtT_N2O	FuelEU_Emissions_WtT_CO2eq	FuelEU_Emissions_WtW_CO2eq	UKETS_Emissions_TtW_CO2	UKETS_Emissions_TtW_CH4	UKETS_Emissions_TtW_N2O
Period	0.00000	0.00000	0.00000	63.77982	376.09982	99.83200	0.00000	0.00000
Leg Part 1	0.00000	0.00000	0.00000	37.11727	236.78127	0.00000	0.00000	0.00000
Leg Part 2	0.00000	0.00000	0.00000	2.77687	15.60087	0.00000	0.00000	0.00000
Leg Part 3	0.00000	0.00000	0.00000	37.11727	236.78127	0.00000	0.00000	0.00000
Leg Part 4	0.00000	0.00000	0.00000	2.77687	15.60087	0.00000	0.00000	0.00000
Leg Part 5	0.00000	0.00000	0.00000	23.88568	123.71768	99.83200	0.00000	0.00000

Example 1 (continued)

	UKETS_Emissions_TtW_CO2eq	IMOCII_TransportWork_BeforeCorr	IMOCII_TransportWork	IMOCII_Attained_BeforeCorr	IMOCII_Attained	IMOCII_Required	IMOCII_Required_d1	IMOCII_Required_d2
Period	99.83200	28000000.000	28000000.000	17.010	16.500	18.000	0.86	0.94
Leg Part 1	0.00000	8000000.000	8000000.000	24.958	24.209	18.000	0.86	0.94
Leg Part 2	0.00000	0.000	0.000			18.000	0.86	0.94
Leg Part 3	0.00000	0.000	0.000			18.000	0.86	0.94
Leg Part 4	0.00000	0.000	0.000			18.000	0.86	0.94
Leg Part 5	99.83200	20000000.000	20000000.000	13.189	12.793	18.000	0.86	0.94

Example 1 (continued)

	IMOCII_Required_d3	IMOCII_Required_d4	IMOCII_Rating_BeforeCorr	IMOCII_Rating	EUETS_Allowance	UKETS_Allowance	FuelEU_GHGIntensity	FuelEU_ComplianceBalance
Period	1.06	1.18	B	B	218.62	99.83	85.14825	18500825.60
Leg Part 1	1.06	1.18	E	E	139.76	0.00	91.67619	-6042184.96
Leg Part 2	1.06	1.18			8.98	0.00	91.34000	-342146.56
Leg Part 3	1.06	1.18			139.76	0.00	91.67619	-6042184.96
Leg Part 4	1.06	1.18			8.98	0.00	91.34000	-342146.56
Leg Part 5	1.06	1.18	A	A	69.88	99.83	74.37638	24885157.12

Example 1 (continued)

	FuelEU_Penalties	VERIssuerName	VERAssessment	IMOCII_VERIssuerAccreditation	EUETS_VERIssuerAccreditation	FuelEU_VERIssuerAccreditation	UKETS_VERIssuerAccreditation	ValidationStatus
Period	0.00	ClassNK	Third-party	1	1	1	1	1
Leg Part 1	3858.02	ClassNK	Third-party	1	1	1	1	1
Leg Part 2	219.27	ClassNK	Third-party	1	1	1	1	1
Leg Part 3	3858.02	ClassNK	Third-party	1	1	1	1	1
Leg Part 4	219.27	ClassNK	Third-party	1	1	1	1	1
Leg Part 5	0.00	ClassNK	Third-party	1	1	1	1	1

Example 1 (continued)

	VerificationStatus
Period	1
Leg Part 1	1
Leg Part 2	1
Leg Part 3	1
Leg Part 4	1
Leg Part 5	1