THETIS MRV FuelEU Report

new module

THETIS MRV Project Team

November 28th 2024





FEUM Regulation

Article 15

Monitoring and recording

- 1. As of 1 January 2025, based on the monitoring plan referred to in Article 8 and following the assessment of that plan by the verifier, **companies shall monitor and record**, for each ship arriving at or departing from a port of call, and **for each voyage** referred to in Article 2(1), the following information:
 - (a) port of departure and port of arrival including the date and time of departure and arrival, and time spent at berth; (...)
- 3. By 31 January of the verification period, companies shall provide to the verifier a ship-specific report (the 'FuelEU report') containing all the information referred to in paragraph 1 of this Article and the monitoring data and documentation referred to in Article 7(4) for the reporting period.

Implementing Act on Verification Activities (Regulation 2024/2027) Article 10

FuelEU report and partial FuelEU report template

- 1. Companies shall use an electronic template of the FuelEU report based on the template included in Annex II and submit the information in FuelEU Database.
- 2. Verifiers shall record a version of the FuelEU report in FuelEU Database after the verification, based on the information submitted by the company.

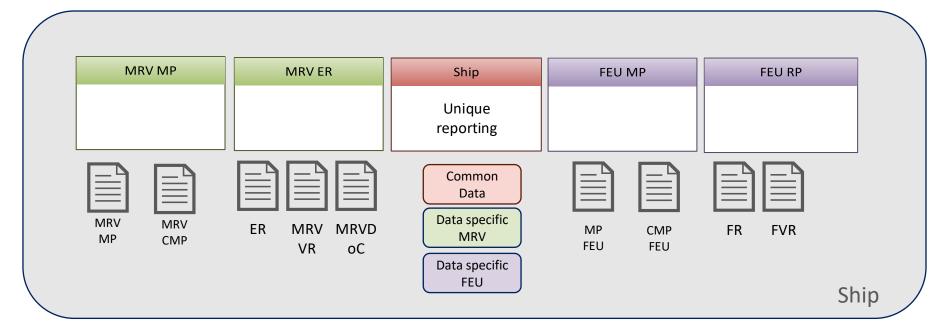
Reporting Emissions



Legal Framework MRV / ETS

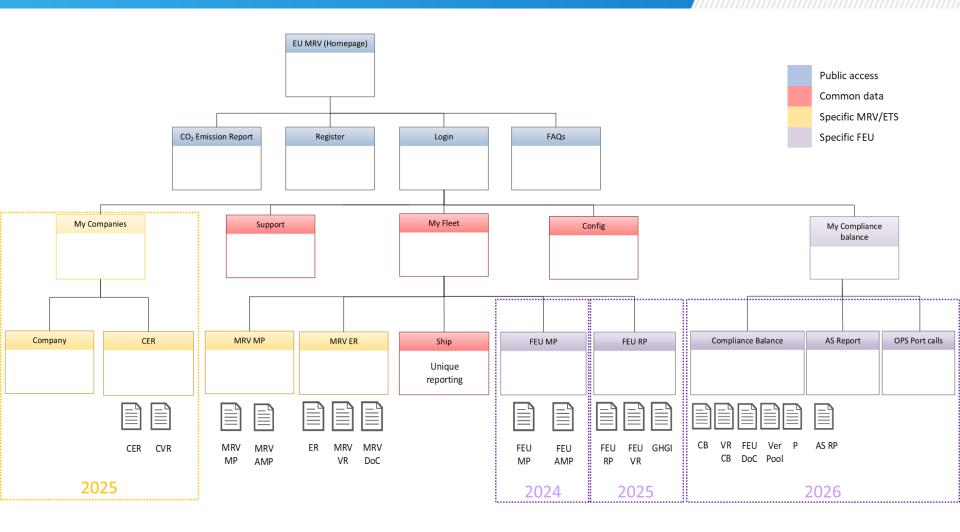
Common Monitoring Ship tab

Legal Framework FEU



Thetis MRV site map



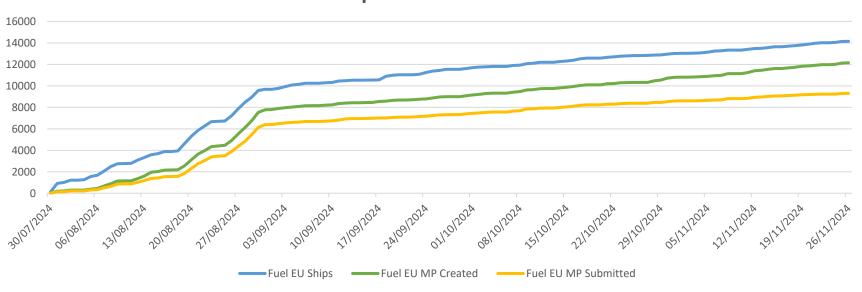


FuelEU Database



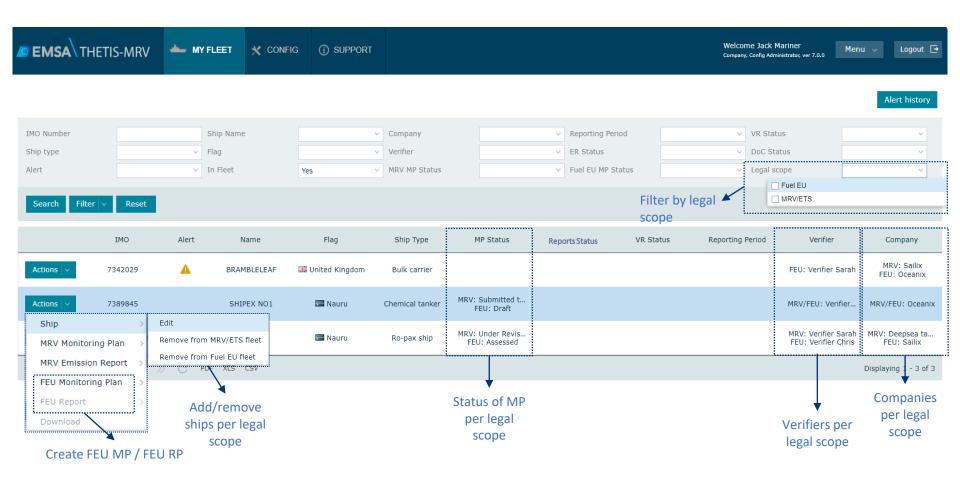
FEU MP statistics

Evolution of Ships, MPs created, and MPs submitted under Fuel EU scope in THETIS-MRV



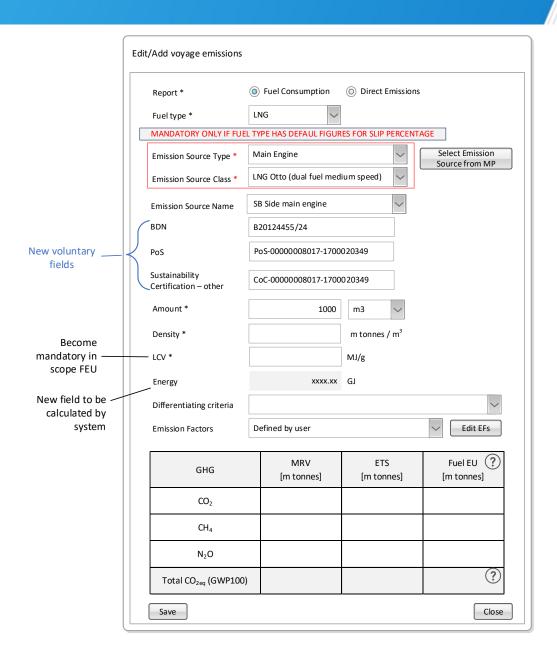
FuelEU Database





Voyage Emissions





Differentiating Criteria



	Code ↑	Label	Legal Framework
Actions ~	CARGO_HEATING	Cargo heating	MRV
Actions ~	DYNAMIC_POSITIONING	Dynamic positioning	MRV
Actions v	FREIGHT_TRANSPORT	Freight transport	MRV
Actions ~	OMR	Outer most region	ETS
Actions v	ON_BALLAST	On ballast	MRV
Actions v	ON_LADEN	On laden	MRV
Actions v	PASSENGER_TRANSPORT	Passenger transport	MRV
Actions v	PSO_PSC	Public Service Obligation / Contract	ETS
Actions v	SMALL_ISLAND	Small Island	ETS
	1 of 1 > >> C PDF XLS CSV		Displaying 1 - 9 of 9

To the MRV/ETS list, we add the differentiating criteria under the Fuel EU scope

	Code	Label	Legal Framework
Action	OMR21_FEU	Outer most region FEU Art 2.1 (c)	FEU
Action	OMR24_FEU	Outer most region FEU Art 2.4	FEU
Action	SMALL_ISLAND_FEU	Small_islands_FEU Art 2.3	FEU
Action	PSO_PSC25_FEU	Public Service Obligation / Contract_FEU Art 2.5	FEU
Action	PSO_PSC26_FEU	Public Service Obligation / Contract_FEU Art 2.6	FEU
<< < page 1 of 1	Displaying 1 - 04 of 04		

Required because FuelEU derogations are different than MRV.

Applicable to Voyages and Port Calls.

Voyage Emissions Sailing in Ice

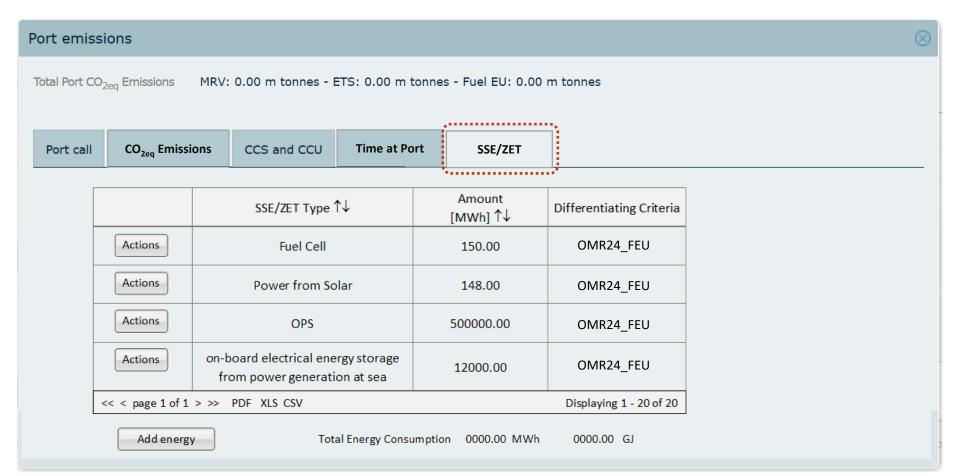


Total Voyge CO_{2eq} Emissions MRV: 000.00 m tonnes ETS: 000.00 m tonnes Fuel EU: 000.00 m tonnes

Voyage					
From * ?	Underway from Non-EEA port	\vee	To * (?)	Underway to EEA Port	~
From Date / Time *		If "From" is I not set to I Port I	To Date / Time *		If "To" is not set to Port
Latitude (Decimal Degrees(36.72861111 Longitude (Decimal Degrees(14.11750000	Latitude (Decimal Degrees(15.39527778 Longitude (Decimal Degrees)	35.26750000
Port of departure *	Select country of departure	If "From" is set to Port	Port of arrival *	Select country of arrival	If "To" is set to Port
 	Select port of departure	~	1	Select port of arrival	~
 ATD * 		<u> </u>	 ATA * 		<u> </u>
Voyage activity		~			
Additional notes		Regular Navigation Through Ice At anchorage			
		/			
Date of record: <date_< td=""><td>_TYPE> (<entry type="">)</entry></td><td>Reporter: <name_< td=""><td>_OF_USER></td><td>Company: <ship_company< td=""><td>_NAME></td></ship_company<></td></name_<></td></date_<>	_TYPE> (<entry type="">)</entry>	Reporter: <name_< td=""><td>_OF_USER></td><td>Company: <ship_company< td=""><td>_NAME></td></ship_company<></td></name_<>	_OF_USER>	Company: <ship_company< td=""><td>_NAME></td></ship_company<>	_NAME>
	This will be done on a voluntar only required if the ship wants energy from sailing through ice	to exclude			

Port Emissions





Annual Emissions





P _{wind}	P _{prop}	P _{wind} / P _{prop}	f_{wind}
854	21310	0.04	1

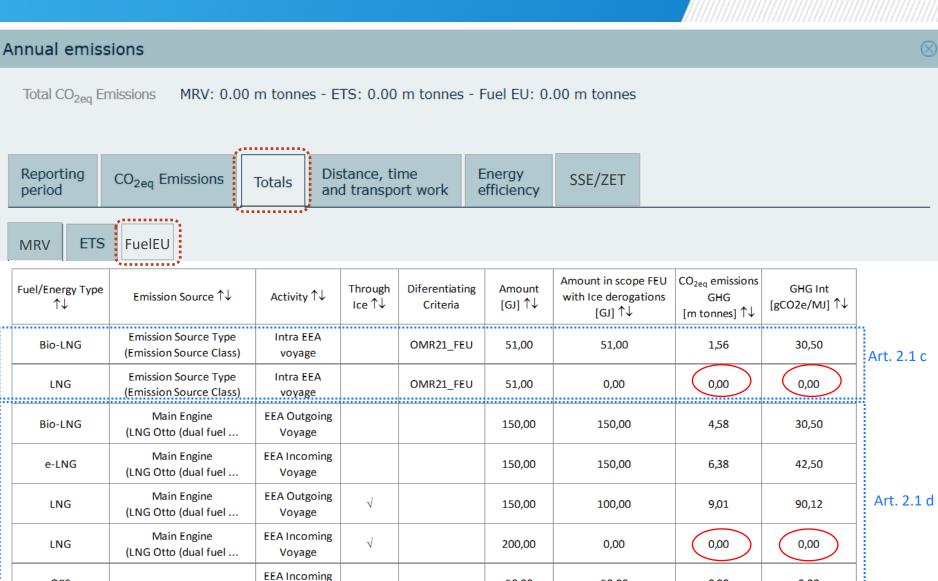
Parameters to calculate ice derogations					
E _{voyages Total}	000.00	GJ			
E _{voyages} ice conditions	000.00	GJ			
E/D _{open water}	000.00	GJ/ n mile			
E _{additional} due to ice conditions	000.00	GJ			
E _{additional due to ice class}	000.00	GJ			

Annual Emissions

OPS

Light fuel Oil (LFO)





50,00

200,00

Voyage EEA Outgoing

Voyage

50,00

0,00

12

0,00

0,00

0,00

0,00

Annual Emissions



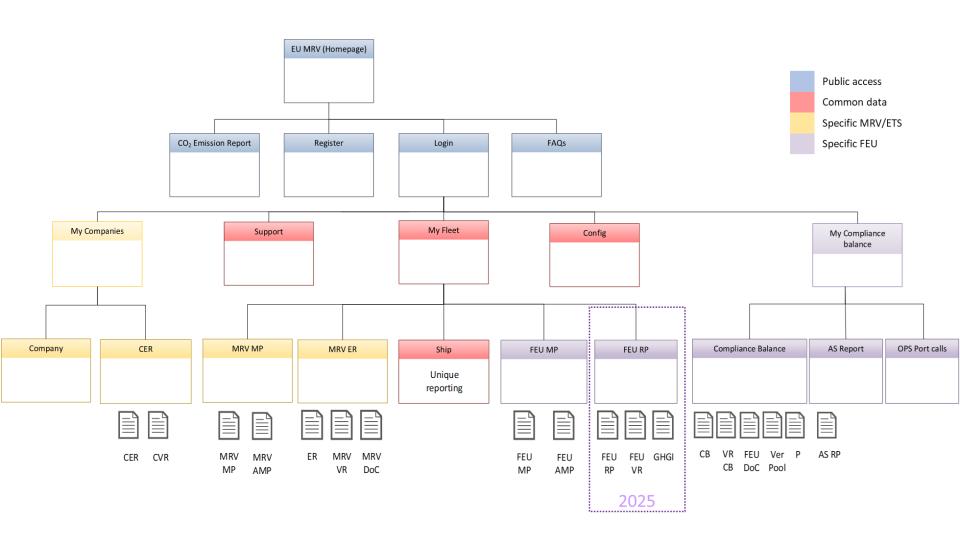
Total CO_{2eq} Emissions MRV: 0.00 m tonnes - ETS: 0.00 m tonnes - Fuel EU: 0.00 m tonnes Reporting period CO_{2eq} Emissions Totals Distance, time and transport work Energy efficiency

MRV ETS FuelEU

Energy consumption	Fuel amount [m tonnes]	Electricity amount [MWh]	Energy amount	WtT CO _{2eq} [m tonnes]	TtW CO _{2eq} [m tonnes]	WtT GHG Intensity gCO _{2eq/MJ}	TtW GHG Intensity gCO _{2eq/MJ}	GHG Intensity gCO _{2eq/MJ}
Total	A1	B1	C1 (C1X)	D1	E1	F1	G1	H1
From voyages between ports under a MS jurisdiction	A2	B2	C2	D2	E2	F2	G2	H2
From voyages which departed from ports under a MS jurisdiction	А3	В3	C3	D3	E3	F3	G3	НЗ
From voyages to ports under a MS jurisdiction	A4	B4	C4	D4	E4	F4	G4	H4
Occurred within ports under a MS jurisdiction at berth	A5	B5	C5	D5	E5	F5	G5	H5
Assigned to outermost regions Art. 2.1 (c)	A6	В6	C6	D6	E6	F6	G6	Н6
Assigned to Port Calls in national small islands Art. 2.3	A7	В7	С7	D7	E7	F7	G7	H7
Assigned to voyages under national small islands Art. 2.3	A8	B8	C8	D8	E8	F8	G8	Н8
Assigned to Port Calls in national outermost regions Art. 2.4	A9	В9	C9	D9	E9	F9	G9	Н9
Assigned to to voyages under national outermost regions Art. 2.4	A10	B10	C10	D10	E10	F10	G10	H10
Assigned to transnational PSC/PSO Art. 2.5	A11	B11	C11	D11	E11	F11	G11	H11
Assigned to national PSC/PSO Art. 2.6	A12	B12	C12	D12	E12	F12	G12	H12
From RFNBO	A13		C13	D13	E13	F13	G13	H13
Assigned to OPS		B14	C14					
Assigned to SSE		B15	C15					
Assigned to ZET		B16	C16					
Additional energy due to ice conditions			C17					
Additional energy due to ice class			C18					

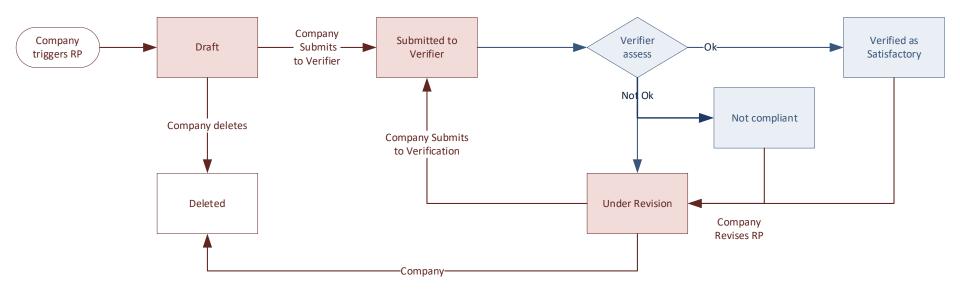
Thetis MRV site map







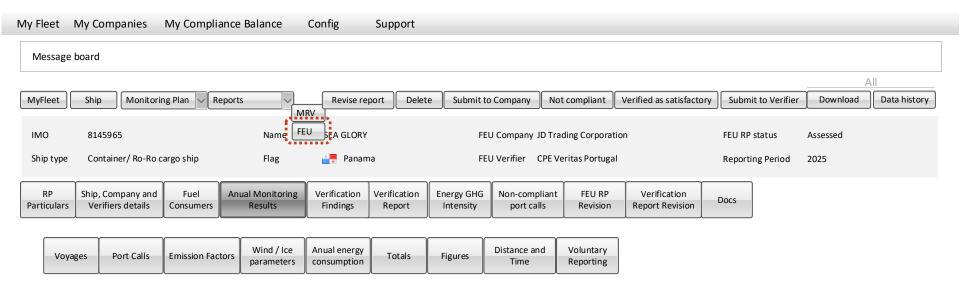
FuelEU Report Workflow



FEU RP Content



Overview





Voyage Data



Departure		Arrival		Distance	Through	Fuel Amount	SSE	Differentiating
Port/Position ↑↓	ATD ↑↓	Port/Position ↑↓	ата ↑↓		Ice ↑↓	[m tonnes] ↑↓	[GWh] ↑↓	criteria ↑↓
Funchal (EEA)	25/12/2024 15:35	Underway to EEA Port	01/01/2025 00:00			Bio-diesel - 30 LFO - 100 MDO - 15	Power from Wind - 1.5 Power from Solar - 0	OMR24_FEU
Underway to EEA Port	01/01/2025 00:00	Rotterdam	03/01/2025 08:02			Bio-diesel - 15 LFO - 40 MDO - 8	Power from Wind - 1.5 Power from Solar - 0	OMR24_FEU
Rotterdam	03/01/2025 18:15	Underway to EEA Port	04/01/2025 09:20			e-diesel - 40 LFO - 75 MDO - 10	Power from Wind - 1.5 Power from Solar - 0	
Underway from EEA Port 62°24.2' N 19°46.3' E	04/01/2025 09:20	Kemi	04/01/2025 16:30	700	√	Bio-diesel - 8 LFO - 32 MDO - 3	Power from Wind - 1.5 Power from Solar - 0	
Kemi	05/01/2025 09:30	Underway to non-EEA Port 63°16'06.7"N 20°07.6' E	05/01/2025 18:15	850	V	Bio-diesel - 6 LFO - 24 MDO - 3	Power from Wind - 1.5 Power from Solar - 0	
Underway from non-EEA Port	05/01/2025 18:15	Southampton	07/01/2025 12:15			Bio-diesel - 30 LFO - 120 MDO - 8	Power from Wind - 1.5 Power from Solar - 0	



Port Data



Port ↑↓	ата ↑↓	ATD ↑↓	Time at Berth $\uparrow\downarrow$	Fuel Amount [m tonnes] ↑↓	SSE/ZET [GWh] ↑↓	Diferentiating criteria ↑↓
	02/01/2025	02/01/2025	At Outside 22	MDO - 125	Power from Wind - 0 Power from Solar - 0	
Funchal (EEA)	03/01/2025 08:02	03/01/2025 18:15	At Quayside - 23 At Anchorage- 10	HVO - 50	OPS - 250	OMR24_FEU
			ŭ		ZET - 0	
					Power from Wind - 0	
Komi (FFA)	04/01/2025	05/01/2025	At Quayside - 23	MDO - 125	Power from Solar - 0	
Kemi (EEA)	16:30	09:30	At Anchorage- 11	HVO - 51	OPS - 0	
					ZET - 250	



Docs

FEU RP

Revision

Verification

Report Revision

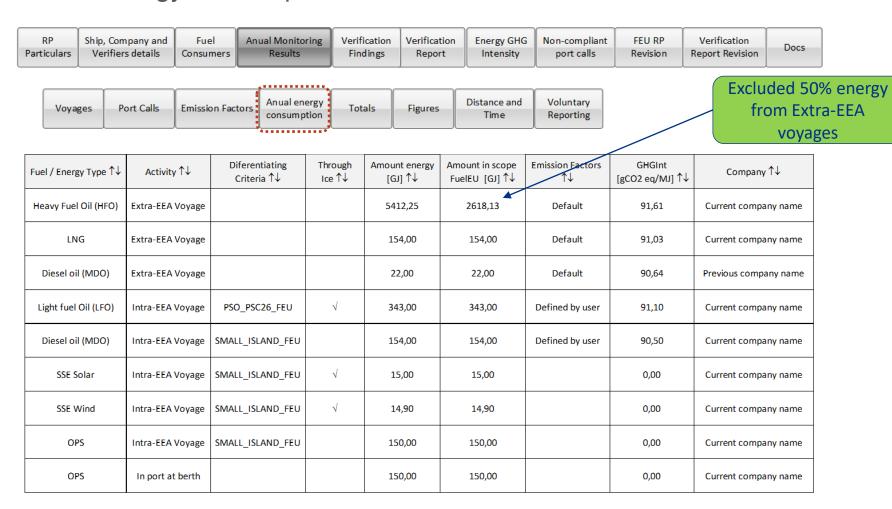
Emissions Factors list Slip emission factor included in Fuel Consumers list

RP Particulars	Ship, Company and Verifiers details	Fuel Consumers	Anual Monitoring Results	Verification Findings	Verification Report		gy GHG ensity	Non-comp port ca	•
		<u></u>	****						
Voya	ges Port Calls	Emission Fact	Anual energy consumption	Totals	Figures	Distand Tin		Voluntar Reportin	
		Fuel amount							
	Fuel Type ↑↓	[m tonnes] ↑↓	LCV [MJ/g] ↑↓	EF Type ↑↓	Emission Fa	ictors ↑↓	EF Valu	ie ↑↓	
	Diesel oil (MDO)	154,00	0,0427	WtT	Defa	ult	14,40	000	
	Diesel oil (MDO)	154,00	0,0427	TTW CO ₂	Defa	ult	3,206	500	
	Diesel oil (MDO)	154,00	0,0427	TTW CH ₄	Defa	ult	0,000	005	
	Diesel oil (MDO)	154,00	0,0427	TTW N₂O	Defa	ult	0,000	018	
	Light Fuel Oil (LFO)	5412,25	0,0410	WtT	Defa	ult	13,20	000	
	Light Fuel Oil (LFO)	5412,25	0,0410	TTW CO ₂	Defa	ult	3,151	100	
	Light Fuel Oil (LFO)	5412,25	0,0410	TTW CH ₄	Defa	ult	0,000	005	
	Light Fuel Oil (LFO)	5412,25	0,0410	TTW N₂O	Defined t	oy user	0,000	011	
	Bio-Diesel	51,23	0,0440	WtT	Defined b	oy user	-49,50	0000	
	Bio-Diesel	51,23	0,0440	TTW CO ₂	Defined b	oy user	2,820	000	
	Bio-Diesel	51,23	0,0440	TTW CH₄	Defined b	oy user	0,000	004	
	Bio-Diesel	51,23	0,0440	TTW N₂O	Defa	ult	0,000	018	

Reason for EF change	Fuel amount [m tonnes] ↑↓	EF type↑↓	EF Value ↑↓
Onboard measurement	5412,25	TTW N₂O	0,00011[gGHG/gFuel]
Proof of sustainability	51,23	WTT	-49,5 [gGHG/MJ]
Accredited laboratory result	51,23	TTW CO ₂	2,82 [gGHG/gFuel]
Methodology defined in the Monitoring Plan	51,23	TTW CH ₄	0,00004 [gGHG/gFuel]

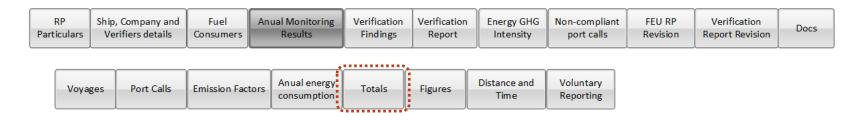


Annual energy consumption





Totals



P _{wind}	P _{prop}	P _{wind} / P _{prop}	f _{wind}
854	21310	0.04	1

Parameters to calculate ice derogations					
Total amount of fuels consumed in voyages	000.00	Gl			
Total amount of fuels consumed in voyages sailing in ice	000.00	Gl			
Average energy consumption in open waters	000.00	GJ/ n mile			
Additional energy due to sailing in ice	000.00	GJ			
Additional energy due to ice class	000.00	GJ			



Totals

RP	Ship, Company and	Fuel	Anual Monitoring	Verification	Verification	Energy GHG	Non-compliant	FEU RP	Verification	Docs
Particulars	Verifiers details	Consumers	Results	Findings	Report	Intensity	port calls	Revision	Report Revision	Docs

Voyages	Port Calls	Emission Factors	Anual energy consumption		Figures	Distance and Time	Voluntary Reporting
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Energy consumption	Fuel amount [m tonnes]	Electricity amount [MWh]	Energy amount	WtT CO _{2eq} [m tonnes]	TtW CO _{2eq} [m tonnes]	WtT GHG Intensity gCO _{2eq/MJ}	TtW GHG Intensity gCO _{2eq/MJ}	GHG Intensity gCO _{2eq/MJ}
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From voyages to ports under a MS jurisdiction		B4	C4	D4	E4	F4	G4	Н4
Occurred within ports under a MS jurisdiction at berth		B5	C5	D5	E5	F5	G5	H5
Assigned to outermost regions Art. 2.1 (c)	A6	В6	C6	D6	E6	F6	G6	H6
Assigned to Port Calls in national small islands Art. 2.3	Α7	В7	С7	D7	E7	F7	G7	Н7
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From RFNBO	A13		C13	D13	E13	F13	G13	H13
Assigned to OPS		B14	C14					
Assigned to SSE		B15	C15					
Assigned to ZET		B16	C16					
Additional energy due to ice conditions			C17					
Additional energy due to ice class			C18					



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