

# Union Database for Biofuels Maritime section

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# With thanks to:

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# Outline

- Introduction
- Fuel suppliers
- Accredited  
Verifiers
- MS authorities
- Special cases

# Introduction



# UDB – What is it?

- An on-line, digital, secure, access controlled database
- UDB=Union Database for Biofuels (not only for bio-fuels, and in fact formally the ‘Union database’)
- As defined by the RED (Renewable Energy Directive) Art 31a
- To record transactions of certified renewable fuels (liquid and gaseous fuels)
- In the EU market, for the EU MS achievement of RED targets
- By means of FEUM Art 10(3):

3. On the basis of the fuel bunker delivery notes complemented in accordance with Annex I to this Regulation, companies shall provide accurate, complete and reliable data on the GHG emission intensity and the sustainability characteristics of fuels to be taken into account for the purposes referred to in Article 4(1) of this Regulation that have been certified under a scheme that is recognised by the Commission in accordance with Article 30(5) and (6) of Directive (EU) 2018/2001 or, where applicable, the relevant provisions of Union legal acts concerning the internal markets in renewable and natural gases and in hydrogen.



# What is mandatorily loaded in the UDB?

For the purposes of this Regulation:

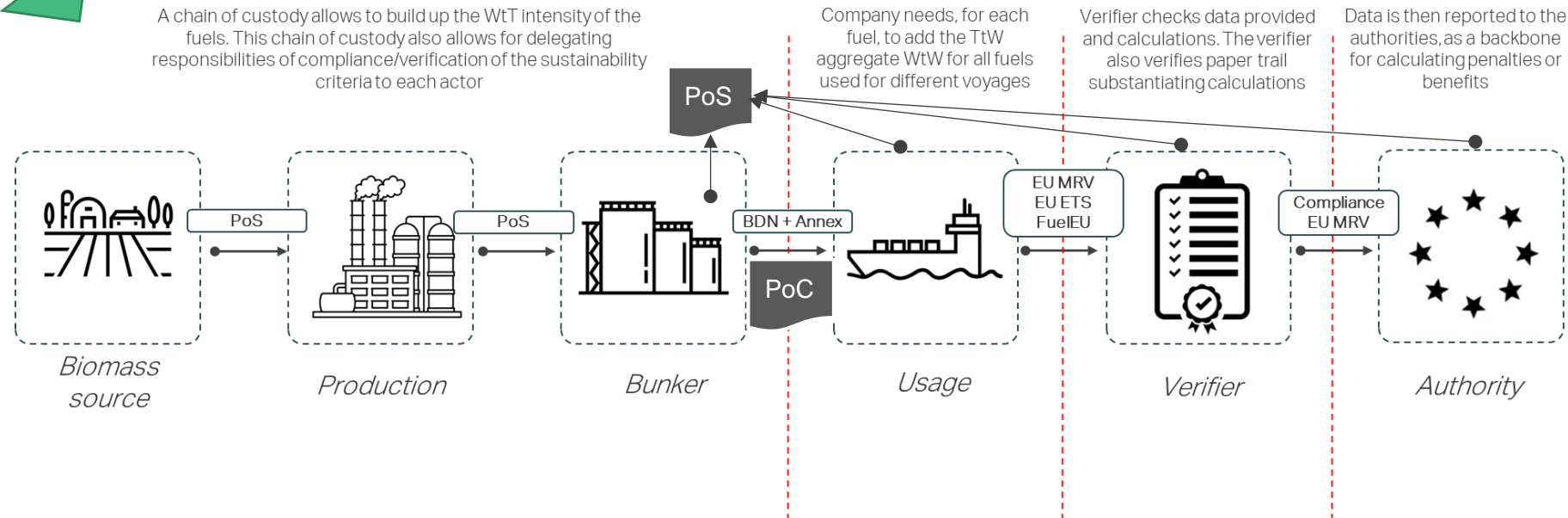
1. BDNs including fuels other than fossil fuels used on board shall be complemented with the following information regarding those fuels:
  - Lower calorific value [MJ/g],
  - For biofuels, E values as established in accordance with the methodologies laid down in Directive (EU) 2018/2001, Part C of Annex V and Part B of Annex VI [gCO<sub>2eq</sub>/MJ] and related evidence of compliance with the rules set out in that Directive for those fuels, identifying the fuel production pathway,
  - For fuels other than fossil fuels and biofuels, **WtI** GHG emission factor [gCO<sub>2eq</sub>/MJ] and related certificate identifying the fuel production pathway.
2. Where there is product blending, information required by this Regulation shall be given for each product.

- **PoS** => Proof of Sustainability (with additional info)



# Certification of Sustainable Marine fuels

## ➤ Proof of Sustainability / Proof of compliance / Union Database



# UDB – For whom, in the maritime-fuels sector?

- Shipping companies



Ship owner, Bareboat charterer, Time Charterer, Technical Manager, ISM Company, Cargo Owner, Shipper, Ship Management Company



- Bunkering at ports



- Bunkering at sea



- Bunkering from barge



- Fuel suppliers



- Fuel producers





# UDB – Since when?

- Since 1 January 2026 any transactions can be recorded on UDB
  - Either from the production
  - Or by ‘onboarding’ a fuel batch already available
- Since roughly mid 2026 all transactions shall be recorded on UDB
  - (depending on entry into force of row materials delegated act)

2026	
January	
1	THU New Year's Day
2	FRI
3	SAT
4	SUN
5	MON 2
6	TUE
7	WED
8	THU
9	FRI
10	SAT
11	SUN
12	MON 3
13	TUE
14	WED
15	THU
16	FRI
17	SAT
18	SUN
19	MON 4
20	TUE
21	WED
22	THU
23	FRI
24	SAT
25	SUN
26	MON 5
27	TUE
28	WED
29	THU
30	FRI
31	SAT



# UDB – Where?

- UDB transaction can be recorded anywhere in the world
- For any RED-compliant fuel
- Originating from any (RED compliant) feedstock
- Produced anywhere in the world
- Bunkered anywhere in the world



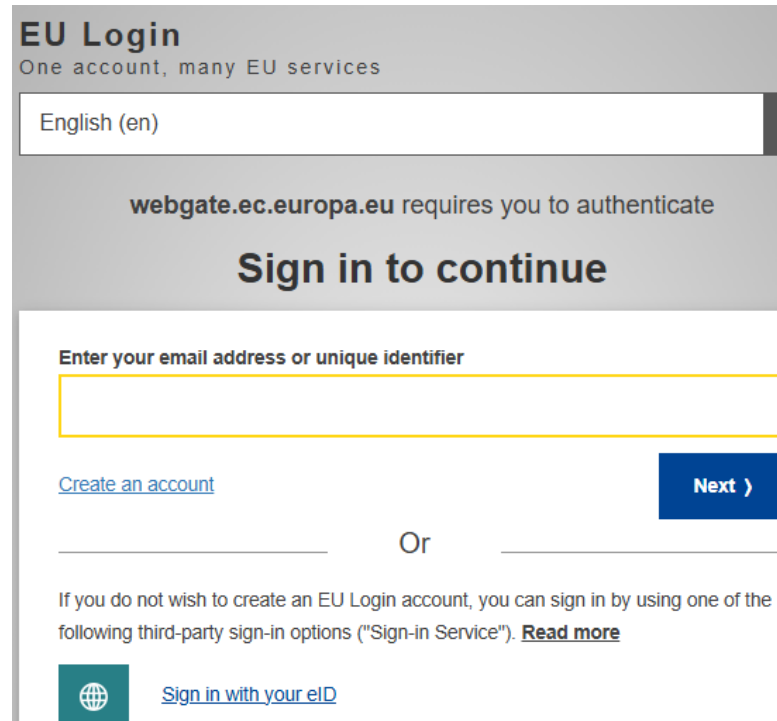
# Fuel suppliers



# Fuel Suppliers

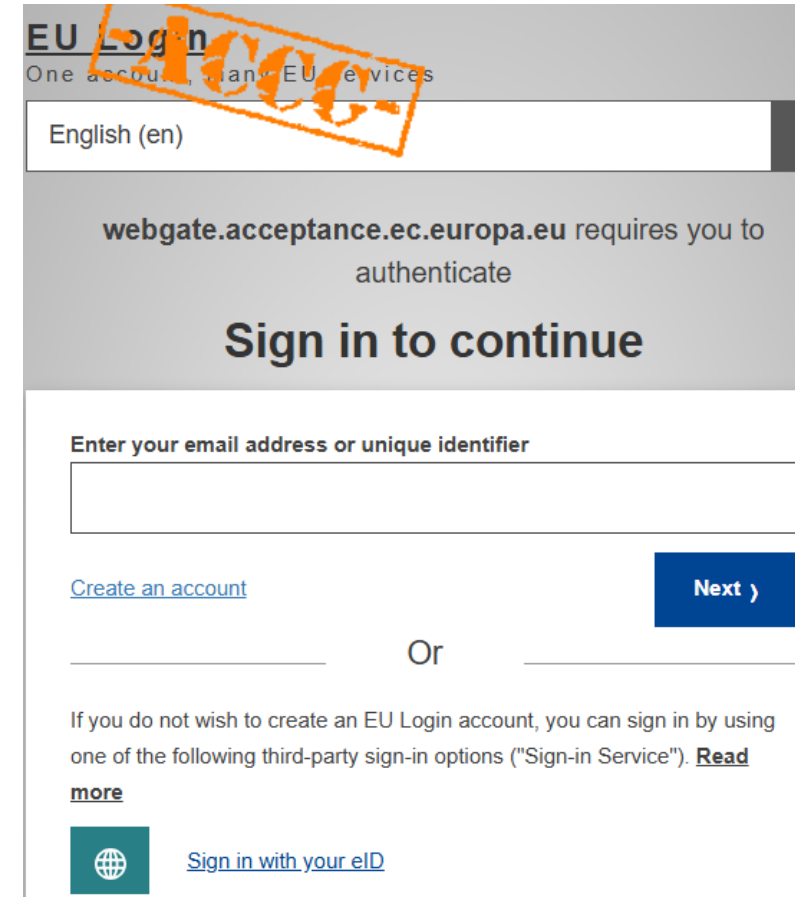
- Certified Fuel Suppliers are “onboarded” to UDB by Voluntary Schemes
- Fuel Supplier user logs in UDB with EU Login account

## Production



The screenshot shows the EU Login production interface. At the top, it says "EU Login" and "One account, many EU services". Below this is a language selector set to "English (en)". A message states "webgate.ec.europa.eu requires you to authenticate". The main heading is "Sign in to continue". There is a text input field for "Enter your email address or unique identifier". Below the field are links for "Create an account" and a "Next >" button. An "Or" separator is present. Below that, a message explains that users can sign in using third-party options like "Sign-in Service" or "Sign in with your eID", with a "Read more" link. At the bottom, there is a globe icon and a link to "Sign in with your eID".

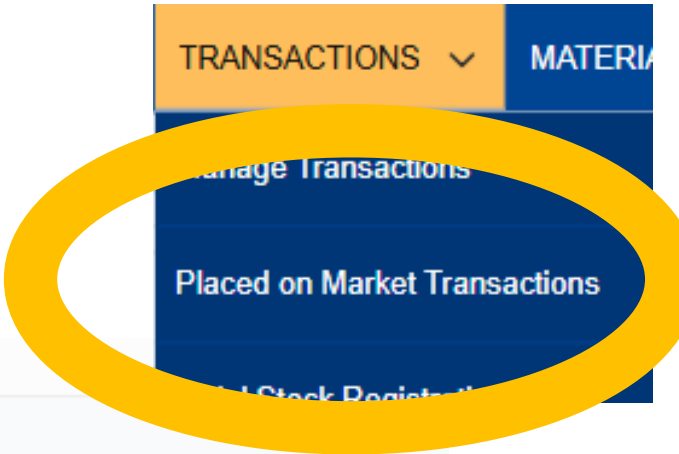
## Testing Environment



The screenshot shows the EU Login testing environment interface. It features a large orange "Acceptance" stamp diagonally across the top. The layout is identical to the production version, with the URL "webgate.acceptance.ec.europa.eu" instead of "webgate.ec.europa.eu". The "Sign in to continue" heading and the "Next >" button are visible. The bottom section includes the same message about third-party sign-in options and the "Sign in with your eID" link. In the bottom right corner, there is a logo consisting of the European Union flag and a stylized building icon.

# Fuel Suppliers

## View Placed on the Market Page (1/2)



Home / Transactions / Placed on Market

**My Organisation: EO\_Testing\_10\_12** Active

Contact Person: No contact in this organisation ADD A CONTACT

Lead users: Test Lead User

**Voluntary Schemes**

TESTVS01 - VS17

Transactions - Placed on Market

+ Crea Placed Market Bulk Upload Maritime + Download Maritime Template

Actions	Consumption ID	Sector	Trade Date	Created On	Reference ID	Material Code	Status	Quantity
Click to expand / collapse	<input type="text"/>	<input type="text"/>	Start Date - End Date	Start Date - End Date	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
>	CON-00000001116-1760605345	Road	16/10/2025 00:00	26/11/2025 18:47	Consumer	POS-000000038838-1721135542	Cancelled	1
>	CON-00000001120-1760606413	Cooling	16/10/2025 00:00	16/10/2025 09:20	Consumer	POS-000000038838-1721135542	Accepted	2
>	CON-00000001118-1760606052	Cement	16/10/2025 00:00	16/10/2025 09:14	Consumer	POS-000000038838-1721135542	Provisional	2



# Fuel Suppliers

## View Placed on the Market Page (2/2)

Actions

Click to expand / collapse

>

View Detail

View Consumption History

Edit

Cancel

Click to expand / collapse

Start Date – End Date

▼			CON-00000001116-1760605345	Road	16/10/2025 00:00
Unit		Consignment ID			
cubic metres at 15°C		POS-000000038838-1721135542 / POS-0000000202130-1759167342			



# Fuel Suppliers

## View Placed on the Market History



[Home](#) / [Transactions](#) / [Placed on Market](#) / [History](#)

Viewing Placed on Market History [CON-00000001118-1760606052]

Back

	Placed on Market ID	Modification Date	Material	Status	User Name
✓	CON-00000001118-1760606052		Sugar beet ethanol (no biogas from slop, natural gas as process fuel in conventional boiler) - FBF0001	Provisional	Test User
	Quantity	Unit	Consignment ID		
	2	cubic metres at 15°C	POS-000000038838-1721135542/POS-0000000202130-1759167342		



# Fuel Suppliers

## Create Placed on the Market (1/8)

Home / Transactions / Placed on Market / Create

Placed on Market

Save & Next    Reset    Back

My Organisation: EO\_Testing\_10\_12

Active

Supply chain allocation

Choose the chain you would like to put on the market

Target Sector \*

Transport: Shipping

Certification and loading details

Choose the chain you would like to put on the market.

☐ Create Transaction for non-certified Activities

Registered Certificate \*

EU-TEST-Cert-MT-05533066

Certificate Start Date \*

01/01/2023

Certificate End Date \*

01/01/2028

Place of Loading \*

EO\_TEST\_SITE66 - 3365,Malta,Rue de UDB

Loading Date \*

26/11/2025

Trade Date \*

26/11/2025





# Fuel Suppliers

## Create Placed on the Market (2/8)

Verification documentation

Unconfirmed

Seller \*

EO\_Testing\_10\_12

Company Reference Number \*

1234567

Invoice Number \*

999111

Customs Reference Number \*

999222

Fuel Destination \*

Port

Fuel Destination \*

Port

Choose the type of Fuel Destination

Port

On-Sea

OPS

Operation Context

☒ EU  
Locations

☐ Non-EU  
Location

Jurisdiction Country \*



Belgium

Portcode (UN/LOCODE) \*



BEANR

Location (Portname) \*



Antwerp-...

*Example: NLRTM for Rotterdam.  
Please type the UN/LOCODE to  
auto-complete. Manual port  
name entry is not available.*

*Automatically retrieved based on  
the port code.*

# Fuel Suppliers

## Create Placed on the Market (2/8)

<b>Fuel Destination *</b> Port <small>Currently multiple selection is not allowed</small>	<b>Fuel Destination *</b> OPS <small>Currently multiple selection is not allowed</small>	<b>Fuel Destination *</b> On-Sea <small>Currently multiple selection is not allowed</small>
<b>Operation Context</b> <input checked="" type="radio"/> EU Locations <input type="radio"/> Non-EU Location <b>Jurisdiction Country *</b> Select Jurisdiction... <small>Field is required</small> <input type="checkbox"/> Jurisdiction is not applicable <input checked="" type="checkbox"/> LOCODE not found <small>Enable manual coordinate entry (decimal degrees: latitude, longitude)</small> <b>Latitude *</b> Enter Latitude <b>Longitude *</b> Enter Longitude <input type="checkbox"/> LOCODE not found <small>Enable manual coordinate entry (decimal degrees: latitude, longitude)</small>	<b>Operation Context</b> <input checked="" type="radio"/> EU Locations <input type="radio"/> Non-EU Location <b>Jurisdiction Country *</b>  <b>Portcode (UN/LOCODE) *</b> Enter Lo-code <small>Example: NLRTM for Rotterdam. Please type the UN/LOCODE to auto-complete. Manual port name entry is not available.</small> <small>Field is required</small> <b>Location (Portname) *</b> Select from dropdown <small>Automatically retrieved based on the port code.</small>	<b>Operation Context</b> <input checked="" type="radio"/> EU Locations <input type="radio"/> Non-EU Location <b>Jurisdiction Country *</b> Select Jurisdiction... <small>Field is required</small> <input type="checkbox"/> Jurisdiction is not applicable <input checked="" type="checkbox"/> LOCODE not found <small>Enable manual coordinate entry (decimal degrees: latitude, longitude)</small> <b>Latitude *</b> Enter Latitude <b>Longitude *</b> Enter Longitude
<b>Vessel type</b> <input checked="" type="radio"/> Maritime (IMO) <input type="radio"/> Inland (ENI) <b>Identification *</b> Maritime (IMO) <b>BDN Identification *</b> Enter BDN Number	<b>Vessel type</b> <input checked="" type="radio"/> Maritime (IMO) <input type="radio"/> Inland (ENI) <b>Identification *</b> Maritime (IMO) <b>BDN Identification *</b> Enter BDN Number	<b>Vessel type</b> <input checked="" type="radio"/> Maritime (IMO) <input type="radio"/> Inland (ENI) <b>Identification *</b> Maritime (IMO) <b>BDN Identification *</b> Enter BDN Number



# Fuel Suppliers

## Create Placed on the Market (3/8)

*Note: The information shown is displayed based on your current selection.*

### Guide: Maritime Guide

**Jurisdiction :** When the destination is entered as Port (EU Waters), International Waters, or AT SEA. The UN/LO-CODE entered will determine the location and jurisdiction in reports.

**Manual Entry :** Where a UN/LO-CODE is not available, the user must manually enter the port name and coordinates (latitude, longitude in decimal degrees). The system will automatically determine the country from the coordinates for reporting purposes.

Confirm Identification

### Placed on market

Fuel Destination: Maritime Sector

VESSEL name: TEST VESSEL (9999019) **Antwerp-Bruges (BEANR)**

*Note: The information shown is displayed based on your current selection.*

Cancel

Confirm

# Fuel Suppliers

## Create Placed on the Market (4/8)

Material \*

Sugar beet ethanol (no biogas from slop, natural gas as process fuel in conventional boiler) - FBF0001

Material Annex Reference \*

Annex V

Consignment Details

Please add information that connects this Consignment to the fuel you are reporting on

Available Material Meta Data

Filter by method type

☒ All ☐ TDV ☐ DDV ☐ NUTS2,DDV\_NUTS2\_AV,DDV\_AV

	Material Name	Material Type	Country of fuel production	Total cumulative GHG	Emissions / Reductions	Method type	Consignment ID	Energy Content	Energy Content Unit	Unit	Available Quantity	Select Quantity	Actions
<input type="checkbox"/>	<input type="checkbox"/> Sugar beet ethanol (no biogas from slop, natural gas as process fuel in conventional boiler) - FBF0001	Fuel	Aland Islands			TDV	POS-000000038838-1721135542 / POS-0000000202130-1759167342		MJ/l	cubic metres at 15°C	1		
Transportation Distance	Raw-material	Country of origin of raw material	Raw Material Scheme of Origin	Raw Material Certificate of Origin	Biomass-land Criteria	Waste or Animal By Product Permit	Non recognized VS						
Train=0 km Ship=0 km Road=0 km	Agricultural harvesting residues - URWA002	Aland Islands			NO		No						
Scheme Origin	Certificate of Origin	Operation Start Date	Consumption targets / mandates	Low ILUC	NUTS2 Region	Land use change type	Crops certified as						
		16/07/2024	Consumption support (tax breaks)										

Items per page: 10 Showing 1-1 of 1

Save & NextResetBack



# Fuel Suppliers

## Create Placed on the Market (5/8)

Filter by method type

☒ All ☐ TDV ☐ DDV ☐ NUTS2,DDV\_NUTS2,AV,DDV\_AV

Material Name	Material Type	Country of fuel production	Total cumulative GHG	Emissions / Reductions	Method type	Consignment ID	Energy Content	Energy Content Unit	Unit	Available Quantity	Select Quantity *	Actions
<input type="checkbox"/> Sugar beet ethanol (no biogas from slop, natural gas as process fuel in conventional boiler) - FBF0001	Fuel	Aland Islands			TDV	POS-000000038838-1721135542 / POS-0000000202130-1759167342		MJ/l				
Transportation Distance	Raw-material	Country of origin of raw material	Raw Material Scheme of Origin	Raw Material Certificate of Origin	Biomass-land Criteria	Waste or Animal By Product Permit	Non recognized VS					
Train=0 km Shlp=0 km Road=0 km	Agricultural harvesting residues - URWA002	Aland Islands			NO							
Scheme Origin	Certificate of Origin	Operation Start Date	Consumption targets / mandates	Low ILUC	NUTS2 Region							
		16/07/2024	Consumption support (tax breaks)									

Edit Energy Content

15

Cancel

Save

Confirmation

except for Fuel Destination fields and Energy  
consumption targets. Are you sure you want to mark the fuel for Put-On-Market?

Cancel

Continue

# Fuel Suppliers

## Create Placed on the Market (6/8)

Home / Put on Market / Manage Placed on Market Sustainability Data

Edit Put on Market Sustainability

Completed \*

Please Select

▼

Save

Back

Proof Of Compliance ID

POC-00000001221-1764185311

Put On Market ID

CON-00000001201-1764185311

Method type

AV

GHG Emissions

EEC

9

☐ Disaggregated Default Value for soil N2O emissions is applied

EL

Land use change type

GHG Reductions

ESCA

ESCA Bonus/Cap

ECCS

ECCR

Mode of transportation

Transportation distance

Ship	Train	Road
<div></div> km	<div></div> km	<div></div> km



# Fuel Suppliers

## Create Placed on the Market (7/8)

☐ Bonus of 29 g CO<sub>2</sub>eq/MJ biofuel/bioliquid/biomass fuel if biomass is obtained from restored degraded land

ECCR

EP

10

ETD

15

Total

34

Maritime emission factor

Maritime Sector

WET \*

TtW

Save

Back

# Fuel Suppliers

## Create Placed on the Market (8/8)

Completed \*

NO

Save

Back

Please Select

YES

NO

Warning

The Put on market sustainability status has been set to incomplete. Do you want to proceed?

Cancel

Continue

Actions	Consumption ID	Sector	Trade Date	Created On	Ref	Code	Status	Quantity	
<div><div>Edit</div></div>	<div></div>	<div></div>	<div>Start Date - End Date</div>	<div>Start Date - End Date</div>	<div></div>	<div></div>	<div></div>	<div></div>	
<div><div></div><div></div><div></div><div></div></div>	CON-00000001202-1764242544	Shipping	27/11/2025 00:00	27/11/2025 11:22	Consumer	POS-0000000202546-1759502074	FBF0053	Provisional	90





# Fuel Suppliers

## Edit Placed on the Market (1/2)

Home / Transactions / Placed on Market / Edit

Placed on Market [CON-00000001202-1764242544] Save & Next Back

**My Organisation:** EO\_Testing\_10\_12 Active

**Supply chain allocation**  
Choose the chain you would like to put on the market

**Target Sector \***  
Transport: Shipping

**Certification and loading details**  
Choose the chain you would like to put on the market.

☐ Create Transaction for non-certified Activities i

**Registered Certificate \***  
EU-TEST-Cert-MT-05533066

**Certificate Start Date \***  
01/01/2023

**Certificate End Date \***  
01/01/2028

**Place of Loading \***  
EO\_TEST\_SITE66 - 3365,Malta,Rue de UDB

**Loading Date \***  
27/11/2025

**Trade Date \***  
27/11/2025

**Verification documentation** Unconfirmed

**Seller \***  
EO\_Testing\_10\_12

**Company Reference Number \***  
999333

**Invoice Number \***  
100123

**Customs Reference Number \***  
12345

**Fuel Destination \***  
Port  
Currently multiple selection are not supported

**Operation Context**  
☒ EU Locations ☐ Non-EU Location

**Jurisdiction Country \***  
 Belgium

**Portcode (UN/LOCODE)**  
 BEANR  
Example: NLRTM for Rotterdam. Please type the UN/LOCODE to auto-complete. Manual port name entry is not available.

**Location (Portname)**  
 Antwerp-Bruges (BE... Automatically retrieved based on the port code.

☐ LOCODE not found  
Enable manual coordinate entry (decimal degrees: latitude, longitude)

**Vessel type**  
☒ Maritime (IMO) ☐ Inland (ENI)

**Identification \***  
9999013 - TEST VESSEL (M... ×  
Format: IMO 1234567 - Vessel Name (Flag State)  
Auto-select the IMO number. Please notify an administrator if the IMO number doesn't exist.  
Please choose a valid option

**BDN Identification \***  
5558000  
Enter the BDN number to link the information.

Note: The information shown is displayed based on your current selection.

**Guide: Maritime Guide**  
**Jurisdiction :** When the destination is entered as Port (EU Waters), International Waters, or AT SEA. The UN/LO-CODE entered will determine the location and jurisdiction in reports.  
**Manual Entry :** Where a UN/LO-CODE is not available, the user must manually enter the port name and coordinates (latitude, longitude in decimal degrees). The system will automatically determine the country from the coordinates for reporting purposes.

Confirm Identification



# Fuel Suppliers

## Edit Placed on the Market (2/2)

Selected Material Meta Data

Selected Count :1

Filter by method type

☒ All ☐ TDV ☐ DDV ☐ NUTS2,DDV\_NUTS2,AV,DDV\_AV

Material Name ↕	Material Type	Country of fuel production ↕	Total cumulative GHG ↕	Emissions / Reductions	Method type ↕	Consignment ID ↕	Energy Content	Energy Content Unit	Unit ↕	Available Quantity	Select Quantity *	Actions
		<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>			<input type="text"/>			
✓ Corn (maize) ethanol - FBF0053	Fuel	Malta	34.00 gCO2eq/MJ	EEC=9 , EP=10 , ETD=15 , EU=0	AV	POS-0000000202546-1759502074 / POS-0000000202548-1759502751	16	MJ/l	litres at 15°C	898	90	
Transportation Distance	Raw-material	Country of origin of raw material	Raw Material Scheme of Origin	Raw Material Certificate of Origin	Biomass-land Criteria	Waste or Animal By Product Permit	Non recognized VS					
Train=0 km Ship=0 km Road=103 km	Corn/Maize (grains) - URWC010	Luxembourg			NO		No					
Scheme Origin	Certificate of Origin	Operation Start Date	Consumption targets / mandates	Low ILUC	NUTS2 Region	Land use change type	Crops certified as					
		03/10/2025		No								

Edit Energy Content

Energy Content \*

16

Energy Content Unit \*

MJ/l

Cancel

Save

Save & Next Back



(Accredited) Verifiers



# Verifiers

## List of Transactions



MARITIME

UDB STATISTIC

Consumption Transactions

Home / Maritime / Placed on Market Transactions / Verification

### Placed on Market Transactions

	Vessel <span>↕</span>	IMO/ENI <span>↕</span>	Location <span>↕</span>	Transaction Date <span>↕</span>	Fuel Amount <span>↕</span>	Date Reviewed <span>↕</span>
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="Start Date"/> - <input type="text" value="End Date"/> 	<input type="text"/>	<input type="text" value="Start Date"/> - <input type="text" value="End Date"/> 
<input type="checkbox"/>	TEST VESSEL	9890124	Antwerp-Bruges(Belgium)	14/10/2025	1	
<input type="checkbox"/>	TEST VESSEL	9890124	Tianjin Xingang(China)	13/08/2025	1	26/11/2025
<input type="checkbox"/>	TEST VESSEL	9890124	Antwerp-Bruges(Belgium)	06/08/2025	10	07/10/2025
<input type="checkbox"/>	TEST VESSEL	9890124	Porto(Portugal)	06/08/2025	10	07/10/2025

Items per page: 10

Showing 1-4 of 4



# Verifiers

## View Transaction

### Placed on Market Verification



#### Vessel Information

Vessel Name : TEST VESSEL  
IMO/ENI Number : 9999123  
POS-ID : POS-00000009442-1709818948

#### Transaction Details

BDN Number : 123456  
Location : Antwerp-Bruges  
Fuel Amount : 99

#### Emissions Section

LowCaloricValue :  
GHG : 1100  
Energy Content : 34  
TtW / WtT Value : 1 / 1

Comment / Reason \*

Viewed by Verifier \*

☐ Yes

☐ No

Cancel

Save

# MS Authority



# MS Authorities

- The MS authorities will obtain a right to access the information depending on their roles, as defined through the THETIS-MRV
- So, as a rule, **not anybody** belonging to any MS authority **can access the UDB**, but only where there is a legitimate right/duty as derived from legislation
- Access module in UDB being developed early 2026



# Special cases





# Special case: SHIPPING COMPANY

- The shipping company (or whatsoever other contractual form close to the shipping company)
  - Can access the necessary details of an **UDB through the THETIS MRV** once the report links to a specific consignment
  - For later in 2026



# Special case: BARGE – blending

- Fuel blended in barges shall keep the original PoS(s) and treat it(them) under the **mass-balance principle**.
- The **barge (operator) should be part of the certification scheme**, indeed there should be certainty and accountability of preserving the mass balance principle.



# Special case: BARGE – (non) owner

- The fuel supplier is always an owner of the fuel, certified according to RED.
- As an owner, it could choose different modes of supply:
  - By pipeline from shore tank (on shore)
  - By bunker barge/vessel – that could be owned or chartered
  - By cargo, in the case of gas carriers
- **Barge operators who don't own the product are not considered suppliers but service providers in the same manners as truck companies.** The fuel supplier will have to record the transaction as the barge operators are not owners and might not even be certified.



# Special case: food and feed crops

- The batch of fuel that is based on food and feed crops will be recorded in the UDB but **in the final report there will be a note** so that verifiers and competent authorities can verify that this might NOT be eligible under FEUM,
- but under EU ETS these may still be eligible for zero-rating,



# Access rights for the PoS

Data Element	Member States (CA)	Verifiers and Shipping companies	Anybody
PoS Existence	✓ Full	✓ Own PoS	✓ Aggregate stats
PoS Number	✓ Full	✓ Own PoS	X
Fuel Type & Quantity	✓ Full	✓ Own PoS	X
E-Value & Emissions	✓ Full	✓ Own PoS	X
Vessel Usage (IMO)	✓ Jurisdiction	✓ Own vessels	X
BDN Numbers	✓ Jurisdiction	✓ Own BDN	X
Zero-Rating Events	✓ Full	✓ Own	X
FuelEU Compliance	✓ Jurisdiction	✓ Own	✓ Aggregated
Cancellation Events	✓ Full	✓ If affected	Partial****
Fraud Cases	✓ Full	X	Anonymous stats***
Sanction Actions	✓ Full	If affected***	X



# Thank you!

<https://wikis.ec.europa.eu/spaces/UDBBIS/pages/82215472/Training+materials>

