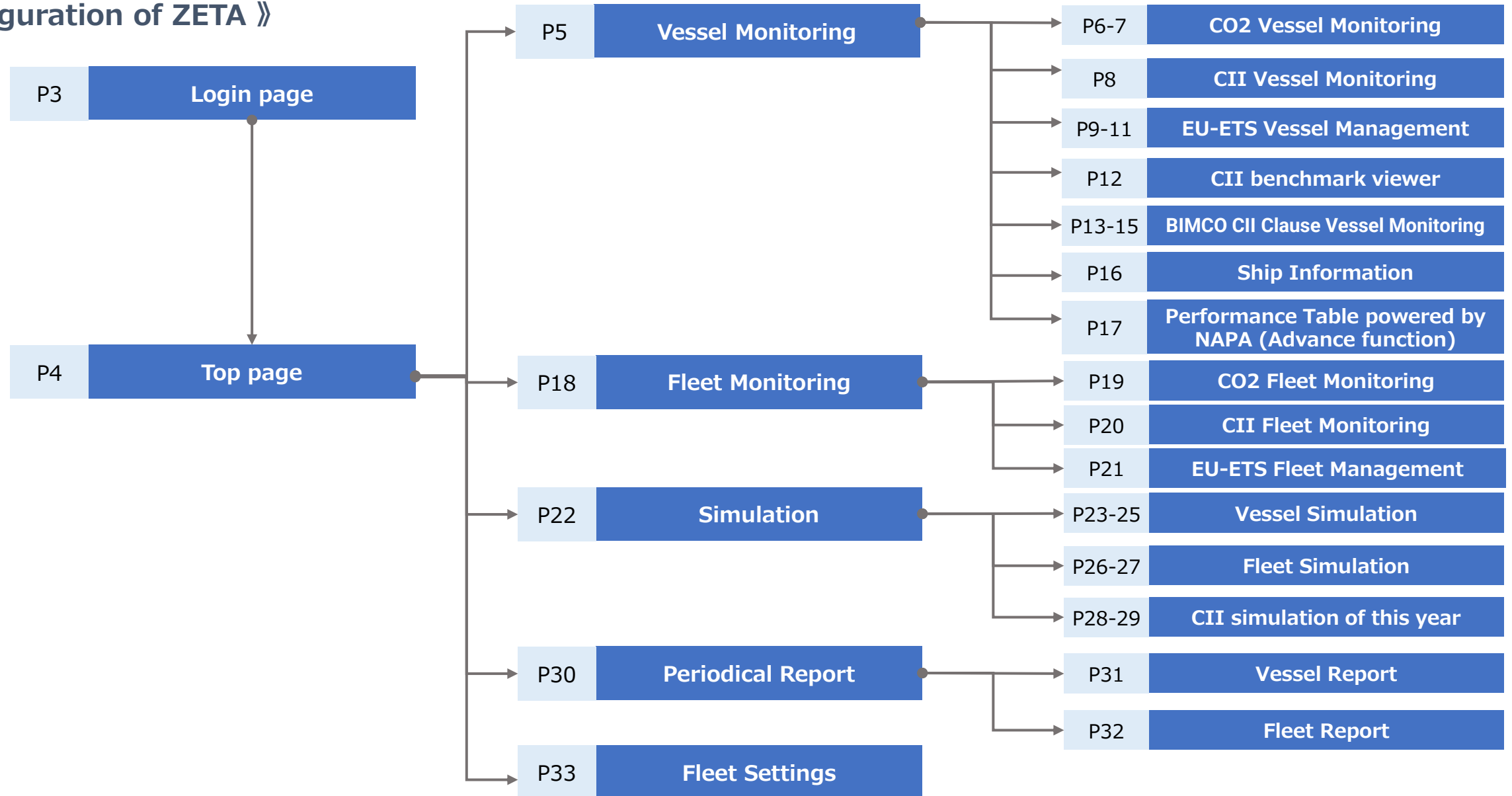


ClassNK ZETA User manual

Ver 1.5.0

《Configuration of ZETA》



- When you access ZETA, the login page is displayed.

ClassNK

ClassNK ZETA
Zero Emission Transition Accelerator

Vessel monitoring

Fleet monitoring

Simulation

Periodical Report

ZETA

Username
Your username

Password
Your password

SIGN IN

Forgot your password?

Return

If you don't have an account, please apply [here](#).

Enter your username (e-mail address) and password.

*When you log in with the initial password, you will be redirected to change it.

If you don't have an account, please apply through this link.

- After logging in, the top page where you can access each page is displayed.

The screenshot shows the ClassNK ZETA application interface. At the top, there is a blue header with the ClassNK logo and the text "ClassNK ZETA". On the right side of the header, there is a "Logout" link and the version number "ver.1.3.0".

On the left side, there is a vertical navigation menu with several icons. A callout box points to the top icon (a chain link) and contains the text: "You can access each page by clicking each icon." Below this, the menu items are listed:

- Access **Top page** (this page)
- Access **Vessel Monitoring** (P5)
- Access **Fleet Monitoring** (P18)
- Access **Simulation** (P22)
- Access **Periodical Report** (P30)
- Access **Fleet Settings** (P33)

In the center of the page, there is a large circular graphic with the text "ClassNK ZETA" and "Zero Emission Transition Accelerator" at the top. Below this, the circle is divided into four segments, each with an icon and a label: "Vessel monitoring" (ship icon), "Fleet monitoring" (globe icon), "Simulation" (computer monitor icon), and "Periodical Report" (document icon). A callout box points to this graphic and contains the text: "You can access each page by clicking each icon."

Another callout box points to the version number "ver.1.3.0" in the top right corner and contains the text: "Version of application".

Vessel Monitoring

- Vessel Monitoring allows you to check CO2 emissions, CII rating, ship information and performance for each ship.
- Access each page by clicking the top of each tile.

ClassNK ZETA

Select or enter a ship name or IMO number:
NK DUMMY SHIP 1 | CLASS_NO: 99999990 | IMO_NO: 99999990

① Select or enter the ship to be displayed

CO2 Vessel Monitoring

CO2 Emission in 2023

Vessel Name
NK DUMMY SHIP 1

Total[ton]
8,053.43

② Access CO2 Vessel Monitoring page

CII Vessel Monitoring

Rating in 2023

Vessel Name
NK DUMMY SHIP 1

A

② Access CII Vessel Monitoring page

EU-ETS Vessel Management

Open the [EU-ETS page](#)

② Access EU-ETS Vessel Management page

CII Benchmark Viewer

Attained CII

② Access CII Benchmark Viewer page

BIMCO CII Clause Vessel Monitoring

No data available

② Access BIMCO CII Clause Vessel Monitoring page

Ship Information

Class No: 99999990
IMO No: 99999990
Official No: XXXXX
ClassNK: 0001
Flag: Japan
Class Characters, Notations: NS*(BC)(ESP) MNS*...
Tonnage Gross (Registered): 1,363
Shoulded L x B x D (m): ...

IMO No: 99999990
Signal Letters: XXXXX
Ship Status: ...
Installation Characters: CHG, MPP, LSA, RCF...
Deadweight: 20874
Type of Ship: ...

② Access Ship Information page

Performance Table powered by NAPA

Year	Class	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e	CO2	CH4	N2O	CO2e
2023	Sample	112	10	100	162	112	10	100	162	112	10	100	162
2022	Sample	107	10	100	158	107	10	100	158	107	10	100	158
2021	Sample	102	10	100	154	102	10	100	154	102	10	100	154
2020	Sample	97	10	100	150	97	10	100	150	97	10	100	150
2019	Sample	92	10	100	146	92	10	100	146	92	10	100	146
2018	Sample	87	10	100	142	87	10	100	142	87	10	100	142
2017	Sample	82	10	100	138	82	10	100	138	82	10	100	138
2016	Sample	77	10	100	134	77	10	100	134	77	10	100	134
2015	Sample	72	10	100	130	72	10	100	130	72	10	100	130
2014	Sample	67	10	100	126	67	10	100	126	67	10	100	126
2013	Sample	62	10	100	122	62	10	100	122	62	10	100	122
2012	Sample	57	10	100	118	57	10	100	118	57	10	100	118
2011	Sample	52	10	100	114	52	10	100	114	52	10	100	114
2010	Sample	47	10	100	110	47	10	100	110	47	10	100	110
2009	Sample	42	10	100	106	42	10	100	106	42	10	100	106
2008	Sample	37	10	100	102	37	10	100	102	37	10	100	102
2007	Sample	32	10	100	98	32	10	100	98	32	10	100	98
2006	Sample	27	10	100	94	27	10	100	94	27	10	100	94
2005	Sample	22	10	100	90	22	10	100	90	22	10	100	90
2004	Sample	17	10	100	86	17	10	100	86	17	10	100	86
2003	Sample	12	10	100	82	12	10	100	82	12	10	100	82
2002	Sample	7	10	100	78	7	10	100	78	7	10	100	78
2001	Sample	2	10	100	74	2	10	100	74	2	10	100	74
2000	Sample	-3	10	100	70	-3	10	100	70	-3	10	100	70
1999	Sample	-8	10	100	66	-8	10	100	66	-8	10	100	66
1998	Sample	-13	10	100	62	-13	10	100	62	-13	10	100	62
1997	Sample	-18	10	100	58	-18	10	100	58	-18	10	100	58
1996	Sample	-23	10	100	54	-23	10	100	54	-23	10	100	54
1995	Sample	-28	10	100	50	-28	10	100	50	-28	10	100	50
1994	Sample	-33	10	100	46	-33	10	100	46	-33	10	100	46
1993	Sample	-38	10	100	42	-38	10	100	42	-38	10	100	42
1992	Sample	-43	10	100	38	-43	10	100	38	-43	10	100	38
1991	Sample	-48	10	100	34	-48	10	100	34	-48	10	100	34
1990	Sample	-53	10	100	30	-53	10	100	30	-53	10	100	30
1989	Sample	-58	10	100	26	-58	10	100	26	-58	10	100	26
1988	Sample	-63	10	100	22	-63	10	100	22	-63	10	100	22
1987	Sample	-68	10	100	18	-68	10	100	18	-68	10	100	18
1986	Sample	-73	10	100	14	-73	10	100	14	-73	10	100	14
1985	Sample	-78	10	100	10	-78	10	100	10	-78	10	100	10
1984	Sample	-83	10	100	6	-83	10	100	6	-83	10	100	6
1983	Sample	-88	10	100	2	-88	10	100	2	-88	10	100	2
1982	Sample	-93	10	100	-2	-93	10	100	-2	-93	10	100	-2
1981	Sample	-98	10	100	-6	-98	10	100	-6	-98	10	100	-6
1980	Sample	-103	10	100	-10	-103	10	100	-10	-103	10	100	-10

This function is a paid service.
You can apply to use Performance table [here](#).
For the details of the service, please refer to [here](#).

② Access Performance Table powered by NAPA page

- CO2 Vessel Monitoring allows you to check CO2 emission details and compare them with past emissions for each ship.

☰ **ClassNK ZETA** Logout

Select or enter a ship name or IMO number.

< **CO2 Vessel Monitoring**

Display Period

From Date: 2021-01-01

To Date: 2021-12-31

Reference Period

From Date: 2020-01-01

To Date: 2020-12-31

CO2 Emission[ton]	Ref. CO2 Emission[ton]	Total EEOI (including Ballast, in port)	Total EEOI (including Ballast, excluding in port)	Total EEOI (Only Laden, including in port)	Total EEOI (Only Laden, excluding in port)
7,406.28	11,313.99	7.17	-	7.17	-

IMO No.	Class No.	Vessel Name	Ship Type	DWT	GT	Average Ship Speed[knot]	Distance sailed[nm]	AER	Attained CII
99999990	99999990	NK DUMMY SHIP 1	CONTAINER CARRIER	20,874	16,363	12.36	38,558.9	9.2	9.2

CO2 emissions

CO2 emissions to be compared

Specify the period for calculating CO2 emissions

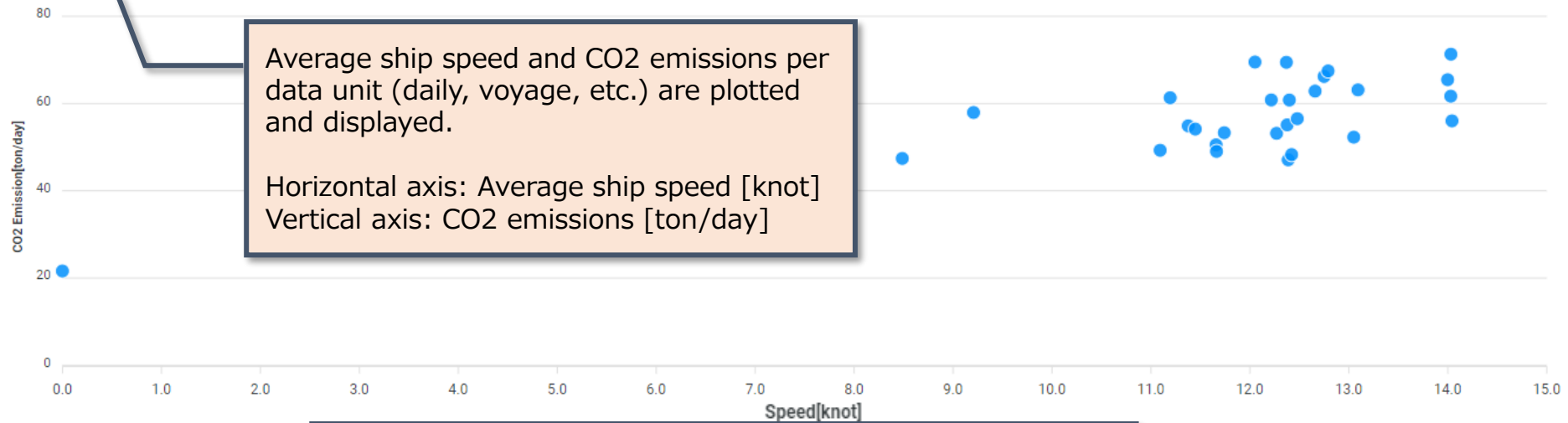
Specify the period for calculating CO2 emissions to be compared (Ref. CO2 Emission)

Download displayed information in PDF format

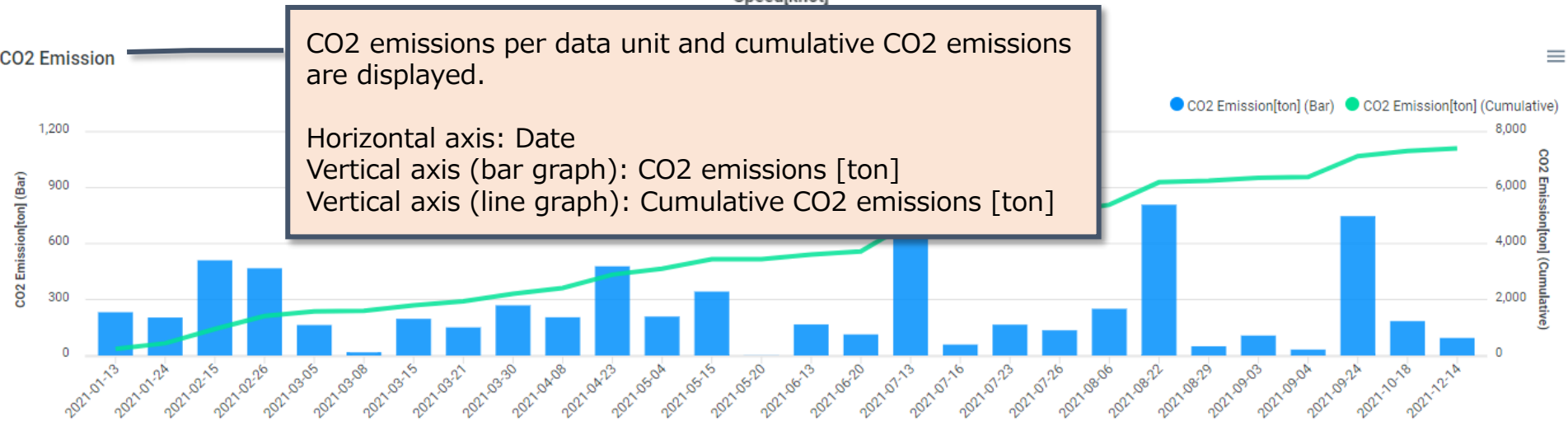
EXPORT PDF



Performance Curve



CO2 Emission



- CII Vessel Monitoring allows you to check CII rating details for each ship.

ClassNK ZETA
Logout

Select or enter a ship name or IMO number.

NK DUMMY SHIP 1 | CLASS_NO: 99999990 | IMO_NO: 99999990

CII Vessel Monitoring

Display Period
From Date: 2021-01-01

To Date: 2021-12-31

Specify the period for calculating CII rating

Reference Period
From Date: 2020-01-01

To Date: 2020-12-31

Specify the calculation period for CII rating to be compared (Ref. CII rating)

EXPORT PDF

Download displayed information in PDF format

CII Rating	Ref. period CII Rating(past)	Total EEOI (including Ballast, in port)	Total EEOI (including Ballast, excluding in port)	Total EEOI (Only Laden, including in port)	Total EEOI (Only Laden, excluding in port)
A	A	7.17	-	7.17	-

IMO No.	Class No.	Vessel Name	Ship Type	DWT	GT	Average Ship Speed[knot]	Distance sailed[nm]	Attained CII	Required CII	CO2 Emission[ton]
99999990	99999990	NK DUMMY SHIP 1	CONTAINER CARRIER	20,874	16,363	12.36	38,558.9	9.2	15.32	7,406.28

Vessel Monitoring : EU-ETS Vessel Management (1)

- EU-ETS Vessel Management allows you to check EU-ETS voyages and CO2 emissions per voyage for individual vessels.
- By entering the emission allowances (EUA) you have, it displays the surplus/shortfall of EUA compared to the GHG emissions.

Annual CO2 emissions for the year selected in ① (including emissions from voyages not subject to EU-ETS)

Total EUA held entered in ③

CO2 emissions subject to EU-ETS (with Transitional measure applied)

Self purchased EUA (P.11)

Received EUA from other company (P.11)

① Select or enter a vessel and when you choose the year of the voyage data to be displayed, a list of voyages subject to EU-ETS will appear.

② Selecting the year to which transitional measures apply will display the emissions according to those measures

③ Enter EUA
Top row: EUA already purchased or to be purchased by your company
Bottom row: EUA already transferred or to be transferred from other companies

See P.10,11

a: CO2 emissions per voyage

b: The portion of emissions from "a" that are subject to EU-ETS

c: The emissions from "b" after applying the transitional measures selected in ②

Categories of voyage within EU /into or out of EU

Display surplus/shortfall of EUA

12030.0 tons
Total CO₂ emission 2023

1500 tons
EUA held

1922.9 tons
CO₂ emission EU ETS 2024 (40%)

1346.0 tons
Internal EUA

576.9 tons
External EUA

-422.9 tons
Remaining EUA

Departure port	Arrival port	Departure date (UTC)	Arrival date (UTC)	Distance sailed (nm)	Actual CO ₂ emissions (tons)	EU ETS CO ₂ emissions (tons)	CO ₂ emissions EU ETS 2024 (tons)	Voyage/port call	Internal EUA	External EUA	CHARTERING BROKER
Gdynia (PLGDY)	Gothenburg (SEGOT)	2023-01-29 17:00	2023-02-01 06:30	1109.0	1053.0	498.8	199.5	Voyage within EU/EAA	Yes	Yes	-
Gothenburg (SEGOT)	Damietta (EGDAM)	2023-02-01 07:48	2023-02-09 06:12	3853.0	3026.7	3025.7	1210.3	Voyage into or out of EU/EEA	Yes	Yes	-
Damietta (EGDAM)	Algeciras (ESALG)	2023-02-10 05:00	2023-02-11 05:48	1939.0	147.2	59.3	23.7	Voyage into or out of EU/EEA	Yes	Yes	-
Algeciras (ESALG)	Rio Grande (Brazil) (BRRIG)	2023-02-13 12:39	2023-02-19 12:30	5010.0	2839.7	1223.5	489.4	Voyage into or out of EU/EEA	Yes	Yes	-
Total				11911.0	7066.6	4807.3	1922.9				

Vessel Monitoring : EU-ETS Vessel Management (2)

- In the EDIT EXPENSE SPLIT page, the following features are available:
 - ① Merge/Split feature for each voyage (see this page)
 - ② Registration feature for parties responsible for EUA, charterers, administering authority and management companies for each voyage (see next page)

EXPENSE SPLIT

DEPARTURE	ARRIVAL	DEP
Gdynia, POL	Riga, LVA	2023
Riga, LVA	Gothenburg, SWE	2023
Gothenburg, SWE	Damietta, EGY	2023
Damietta, EGY	Algeciras, ESP	2023
Algeciras, ESP	Rio Grande (Brazil), BRA	2023-09-25 23:52
		2023-10-13 11:50

Note:
All voyages must have at least one EUA checked

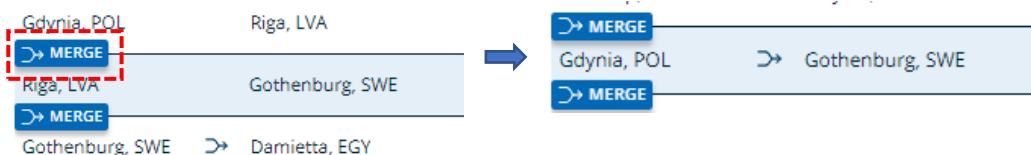
① Merge/Split feature for each voyage:

- The division of voyages subject to EU-ETS is based on whether loading/unloading took place in the port, so if there are errors or omissions in the loading/unloading information in the vessel's voyage data, the voyages subject to EU-ETS may not be displayed correctly.
- In such case, it is possible to merge the two consecutive voyages by clicking the MERGE button.
- In merged voyage, it is also possible to split it into multiple voyages by clicking the SPLIT VOYAGE button.

Example: A voyage from Gdynia to Gothenburg is a single voyage, but it is displayed as two separate voyages.

Gdynia (PLGDY)	Riga (LVRIX)
Riga (LVRIX)	Gothenburg (SEGOT)

Users can merge two voyages into one by clicking the MERGE button that appears between the two voyages you want to merge.



Note:
All voyages must have at least one EUA checked

An integrated voyage can be reverted to separate voyages by clicking the SPLIT VOYAGE button.

Vessel Monitoring : EU-ETS Vessel Management (3)

② Registration feature for parties responsible for EUA, charterers, administering authority and management companies for each voyage

ClassNK ZETA

Report
EU-ETS

Individual ship | Fleet wide

Select ship
NK DUMMY SHIP

Voyages in (year)
2023

EUA purchased (tons)
0

EUA received (tons)
0

EDIT EXPENSE SPLIT

EXPENSE SPLIT

Registration of parties responsible for EUA

- For the EUA of each voyage, select INTERNAL EUA if your company is responsible for and select EXTERNAL EUA if other company, such as charterer, is responsible for.
- The total emissions for each voyage with selected INTERNAL/EXTERNAL EUA are displayed in the INTERNAL/EXTERNAL EUA of the individual ship page(P.9).
- The total of selected INTERNAL/EXTERNAL EUA for each vessel is displayed in the INTERNAL/EXTERNAL EUA of the fleet wide page(P.21).

<input type="checkbox"/> INTERNAL EUA	<input type="checkbox"/> EXTERNAL EUA	CHARTERING BROKER	ADMIN COUNTRY	MANAGEMENT COMPANY
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NK Ships Co., Ltd.	Germany	NK Management Co., Ltd.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NK Ships Co., Ltd.	Germany	NK Management Co., Ltd.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NK Ships Co., Ltd.	Germany	NK Management Co., Ltd.
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Germany	NK Management Co., Ltd.
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Germany	NK Management Co., Ltd.

All voyages must have at least one EUA checked

SPLIT VOYAGE

APPLY **CANCEL**

}

Charterer registration

- It is possible to enter charterer information for each voyage.
- Entered charterer information can be reflected in the following categories:
 - Reflect only on the selected voyage
 - Reflect on all voyages
 - Reflect on all future voyages

Administering authority registration

- It is possible to register Administering authority

Management company registration

- It is possible to register management company

NK Ships Co., LTD

Add broker name to

Current voyage

All voyages

All future voyages

APPLY **CANCEL**

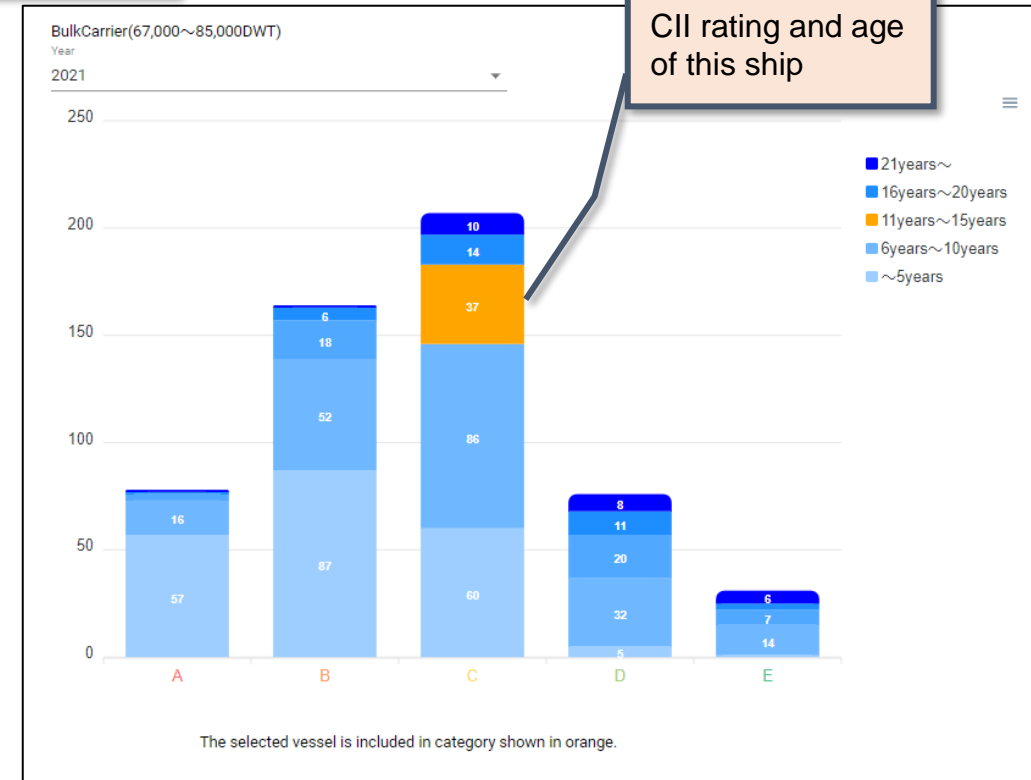
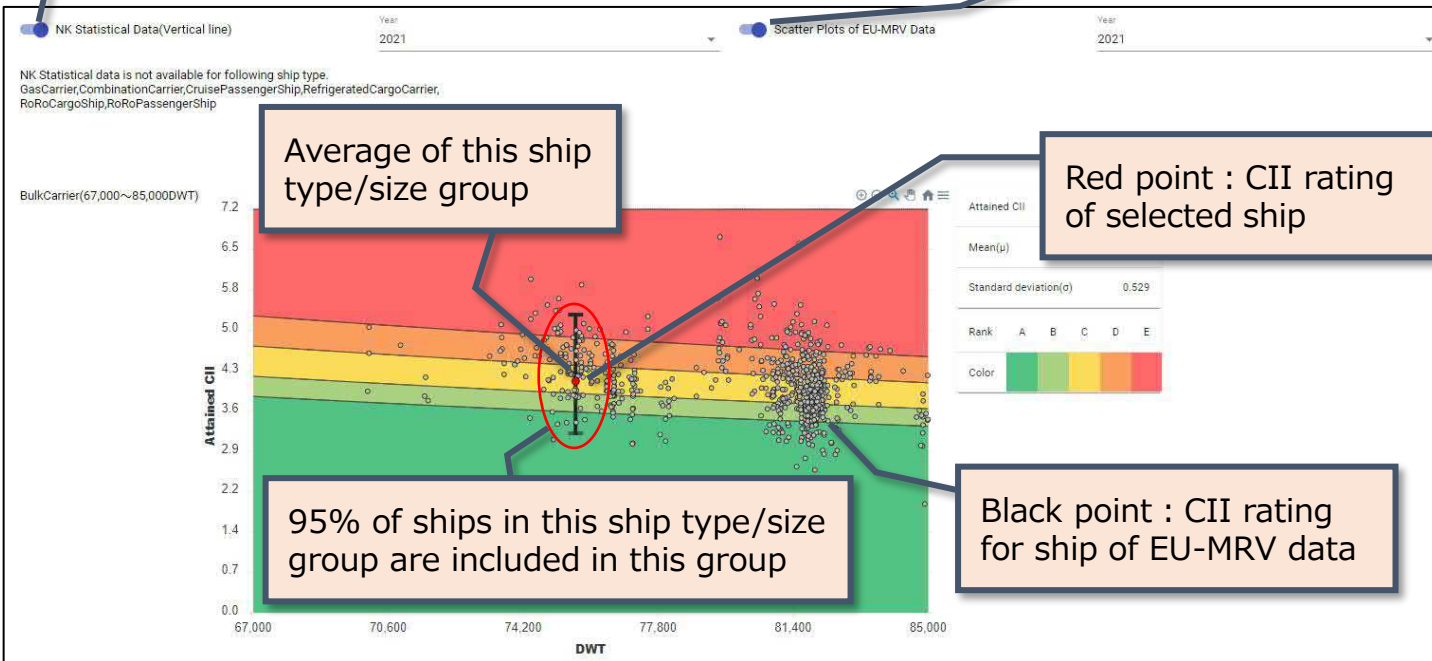
Vessel Monitoring: CII benchmark viewer

- CII benchmark viewer allows you to compare the CII ratings of each vessel with other vessels by “ship type and size” and by “ship age”.
- You can compare verified IMO-DCS statistical data with EU-MRV public data.

Select and display IMO-DCS statistical data.
Data for following ship type is not available.
Gas Carrier, Combination Carrier, Cruise Passenger Ship, Refrigerated Cargo Carrier, RoRo Cargo Ship, RoRo Passenger Ship

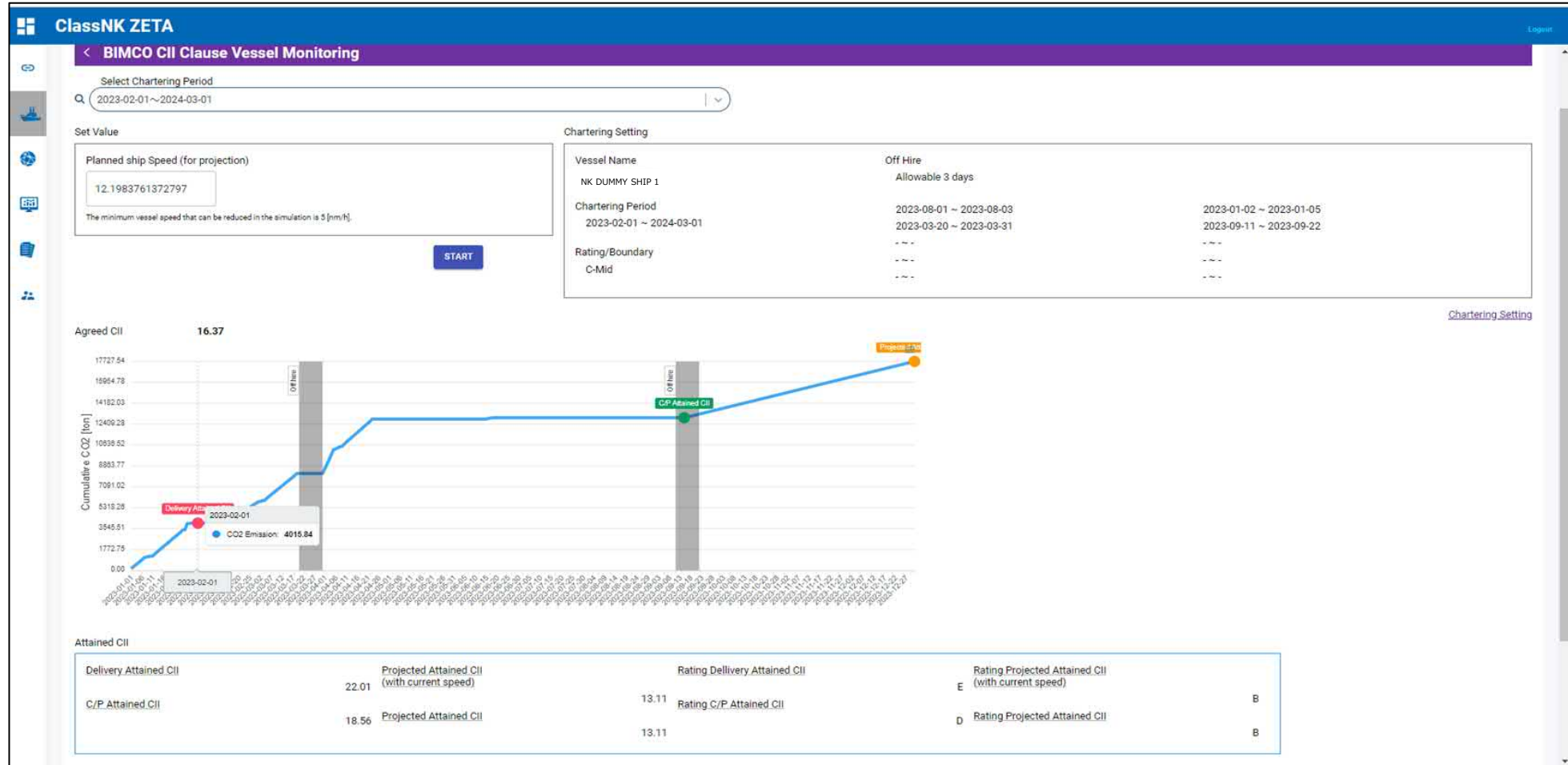
Select and display EU-MRV data

CII rating and age of this ship



Vessel Monitoring : BIMCO CII Clause Vessel Monitoring (1)

- BIMCO CII Clause Vessel Monitoring allows you to check the performance of ship in terms of CII during charter period. This includes the C/P Attained CII, Delivery Attained CII and Projected Attained CII, as defined in BIMCO's "CII OPERATIONS CLAUSE FOR TIME CHARTER PARTIES".
- To start monitoring, you need to set up chartering period, etc. for each vessel. For setup instructions, see the next pages.



Vessel Monitoring : BIMCO CII Clause Vessel Monitoring (2)

- In the Chartering Period Settings, you need to set up ①Chartering period, ②Agreed CII rating for the chartering period, ③Allowance for off-hire period.
- You can set up multiple chartering period.

Select or enter a ship name or IMO number.

NK DUMMY SHIP 1 CLASS_NO: 99999990 IMO_NO: 99999990

< BIMCO CII Clause Vessel Monitoring

Select Chartering Period

Chartering Period Setting

< Chartering Period Settings

Select or enter a ship name or IMO number.

NK DUMMY SHIP 1 CLASS_NO: 99999990 IMO_NO: 99999990

Set Value

Select Chartering Period

2023-02-01 ~ 2024-03-01

Chartering Period

From Date: 2023-02-01 To Date: 2024-03-01

Rating/Boundary for Agreed CII

C-Mid

Off Hire Allowable: 31 days

① Set chartering period

② Set agreed CII rating for the chartering period

③-1 Set allowance off-hire period (Optional, default value is 0 day)

③-2 Set the off-hire period (Optional, multiple periods can be set)

From Date: 2023-08-01 To Date: 2023-08-03	From Date: 2023-01-02 To Date: 2023-01-05
From Date: 2023-03-20 To Date: 2023-03-31	From Date: 2023-09-11 To Date: 2023-09-22
From Date: To Date:	From Date: To Date:
From Date: To Date:	From Date: To Date:
From Date: To Date:	From Date: To Date:

DELETED

④ Click SUBMIT to save the settings

SUBMIT

BIMCO Clause Vessel Monitoring

Vessel Monitoring : BIMCO CII Clause Vessel Monitoring (3)

- Go back to BIMCO CII Clause Vessel Monitoring page and select the chartering period to see the CII values.

ClassNK ZETA

BIMCO CII Clause Vessel Monitoring

⑤ Select a set chartering period

Select Chartering Period
2023-02-01 ~ 2024-03-01

Set Value

Planned ship speed (for projection)
12.1983761372797

⑥ Enter planned ship speed for the period and click START (default value is average speed so far)

START

Rating/Boundary
C-Mid

Off Hire
Allowable 3 days

2023-08-01 ~ 2023-08-03
2023-03-20 ~ 2023-03-31
2023-01-02 ~ 2023-01-05
2023-09-11 ~ 2023-09-22

Agreed CII 16.37

Cumulative CO₂ [ton]

Delivery Attained CII 2023-02-01

CO₂ Emission 4015.84

Off Hire

C/P Attained CII

Projected Attained CII

• Displays the transition of CII values from Delivery Attained CII (at the start of the chartering period) to Projected Attained CII (forecasted CII value at the end of the chartering period).
• Current CII value is shown as C/P Attained CII.
• Off-hire period is indicated by grey vertical line.

CII rating at delivery attained CII

CII rating at C/P attained CII

Category	Value	Rating
Delivery Attained CII	16.37	-
C/P Attained CII	18.56	-
Projected Attained CII (with current speed)	22.01	-
Projected Attained CII	18.56	-
Rating Delivery Attained CII	13.11	E
Rating C/P Attained CII	13.11	D
Rating Projected Attained CII (with current speed)	13.11	E
Rating Projected Attained CII	13.11	D
CII rating at projected attained CII	-	B

Delivery Attained CII

C/P Attained CII

Projected Attained CII
-Upper section: based on average speed
-Lower section: based on speed set in ⑥

CII rating at projected attained CII
-Upper section: based on average speed
-Lower section: based on speed set in ⑥

- Ship Information allows you to check basic information for each ship.

The screenshot displays the ClassNK ZETA web interface. At the top, there is a blue header with the ClassNK logo and a 'Logout' link. Below the header is a search bar with the text 'Select or enter a ship name or IMO number.' and a search button. The search results show 'NK DUMMY SHIP 1 | CLASS_NO: 99999990 | IMO_NO: 99999990'. A red box highlights the 'Ship Information' icon in the left sidebar. The main content area is titled 'Ship Information' and is divided into several sections:

- Identification**

Class No.	IMO No.
99999990	99999990
Official No.	Signal Letters
ClassNK-0001	XXXXX
Flag	Port of Registry
Japan	Tokyo
Ship Status	--
Former Name	--
- Characters**
 - Class Characters, Notations: NS*(BC)(ESP) MNS*...
 - Description Notes: Design Condition: Strengthened for heavy cargo loading ...
 - Installation Characters: CHG, MPP, LSA, RCF...
 - Special Description: --
 - Other Class: --
- Weight**

Tonnage Gross (Registered)	Tonnage Net (Registered)
16363	7481
- Dimensions**
 - Moulded L x B x D (m): 160.000 x 27.600 x 13.000
 - Overall Length (m):
- Type**
 - Type of Ship: CONTAINER CARRIER
 - Certificate SC/SE/SF:

- Performance Table powered by NAPA provides up-to-date information on the vessel's current performance calculated by NAPA and shows the information of ship speed and fuel consumption for each engine load under different weather and sea conditions and loading conditions.
- This feature is a paid service and requires an application via dedicated form after logging in to ClassNK ZETA.

ClassNK ZETA

Select or enter a IMO number.

NK DUMMY SHIP 1 | CLASS_NO: 99999990 | IMO_NO: 99999990

< Vessel Performance Table (powered by NAPA)

WHETHER	MainEngineLoad	35	40	45	50	55	60	65	70	75	80	85	90
Beaufort0	Speed, Laden(kn)	10.8	11.3	11.8	12.3	12.7	13.1	13.4	13.8	14.1	14.4	14.7	15
Beaufort0	Speed, Ballast(kn)	11.8	12.4	12.9	13.4	13.8	14.2	14.6	15	15.3	15.6	15.9	16.2
Beaufort0	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.3	29.2	31.2	33.2	35.3
Beaufort1	Speed, Laden(kn)	10.8	11.3	11.8	12.3	12.7	13.1	13.4	13.8	14.1	14.4	14.7	15
Beaufort1	Speed, Ballast(kn)	11.8	12.4	12.9	13.4	13.8	14.2	14.6	15	15.3	15.6	15.9	16.2
Beaufort1	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.3	29.2	31.2	33.2	35.3
Beaufort2	Speed, Laden(kn)	10.8	11.3	11.8	12.2	12.7	13	13.4	13.8	14.1	14.4	14.7	15
Beaufort2	Speed, Ballast(kn)	11.8	12.3	12.8	13.3	13.8	14.2	14.6	14.9	15.3	15.6	15.9	16.2
Beaufort2	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.3	29.2	31.2	33.2	35.3
Beaufort3	Speed, Laden(kn)	10.7	11.2	11.7	12.1	12.5	12.9	13.3	13.7	14	14.3	14.6	14.9
Beaufort3	Speed, Ballast(kn)	11.6	12.2	12.7	13.2	13.7	14.1	14.5	14.8	15.2	15.5	15.8	16.1
Beaufort3	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.3	29.3	31.2	33.2	35.4
Beaufort4	Speed, Laden(kn)	10.3	10.9	11.4	11.8	12.3	12.7	13.1	13.4	13.7	14.1	14.4	14.7
Beaufort4	Speed, Ballast(kn)	11.3	11.9	12.4	12.9	13.4	13.8	14.2	14.6	14.9	15.2	15.6	15.8
Beaufort4	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.4	29.3	31.3	33.3	35.5
Beaufort5	Speed, Laden(kn)	9.7	10.3	10.8	11.3	11.7	12.2	12.5	12.9	13.3	13.6	13.9	14.2
Beaufort5	Speed, Ballast(kn)	10.6	11.2	11.8	12.3	12.8	13.2	13.6	14	14.4	14.7	15.1	15.4
Beaufort5	Total FOC(mt/d)	14.1	16	17.9	19.8	21.7	23.6	25.5	27.4	29.4	31.4	33.5	35.6
Beaufort6	Speed, Laden(kn)	8.4	9.1	9.7	10.2	10.7	11.1	11.6	12	12.3	12.7	13.1	13.4
Beaufort6	Speed, Ballast(kn)	9.2	9.9	10.5	11.1	11.6	12.1	12.6	13	13.4	13.8	14.1	14.5
Beaufort6	Total FOC(mt/d)	14	16	17.9	19.8	21.7	23.7	25.6	27.6	29.7	31.7	33.8	35.8

Note:
 Draft used for Laden condition= 13.1 m
 Draft used for Ballast condition= 7 m

Fleet Monitoring

- Fleet Monitoring allows you to check CO2 emissions, CII rating and CII calculation for each fleet.
- Access each page by clicking the top of each tile.

☰ **ClassNK ZETA**

Available to show the fleet registered in the Fleet Settings page (P.33)

Select or enter a fleet name.

☒ **CO2 Fleet Monitoring**

CO2 Emission in 2023

Number of Vessels

73

Total[ton]

1,025,631.4

☒ **CII Fleet Monitoring**

Rating in 2023

A

21
vessels

B

18
vessels

C

18
vessels

D

7
vessels

E

7
vessels

N.A.

1
vessels

☒ **EU-ETS Vessel Management**

Open the [EU-ETS page](#)

312041.8 (100%)		64000 (100%)		83082.4 (100%)		83082.4 (100%)		83082.4 (100%)		
EU Emissions		EU Emissions		EU Emissions		EU Emissions		EU Emissions		
EU Emissions		EU Emissions		EU Emissions		EU Emissions		EU Emissions		
MANAGER COMPANY	AMIRAL COUNTRY	IMO	Vessel Name	Ship Type	GT	DWT	Operational since	Actual CO2 emissions (ton)	EU ETS 2024 Emissions	TOTAL EU Emissions
-	-	999999	MC CLARITY (1)	Bulk Carrier	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (2)	Bulk Carrier	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (3)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (4)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (5)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (6)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (7)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (8)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (9)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (10)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (11)	Container Ship	99999	99999	2020	5.0	5.0	5.0
-	-	999999	MC CLARITY (12)	Container Ship	99999	99999	2020	5.0	5.0	5.0

Access CO2 Fleet Monitoring page

Access CII Fleet Monitoring page

Access EU-ETS Fleet Management page

- CO2 Fleet Monitoring allows you to check CO2 emission details for each fleet.

The screenshot shows the ClassNK ZETA interface for CO2 Fleet Monitoring. At the top, there is a search bar with the text "test1" and a "Logout" link. Below the search bar, the "CO2 Fleet Monitoring" section is visible. It includes two date pickers: "Display Period" (From Date: 2021-01-01, To Date: 2021-12-31) and "Reference Period" (From Date: 2020-01-01, To Date: 2020-12-31). An "EXPORT PDF" button is located to the right of the date pickers. Below the date pickers is a table with the following columns: IMO No., Class No., Vessel Name, Ship Type, DWT, GT, Average Ship Speed[knot], Distance sailed[nm], CO2 Emission[ton], Ref. CO2 Emission[ton], AER, and Attained CII. The table contains four rows of dummy data. At the bottom right, there is a pagination control showing "Rows per page: 10" and "1-4 of 4".

Callouts in the image provide the following information:

- Specify the period for calculating CO2 emissions (pointing to the Display Period date pickers)
- Specify the period for calculating CO2 emissions to be compared (Ref. CO2 emissions) (pointing to the Reference Period date pickers)
- Download displayed information in PDF format (pointing to the EXPORT PDF button)
- CO2 emissions (pointing to the CO2 Emission[ton] column)
- CO2 emissions to be compared (pointing to the Ref. CO2 Emission[ton] column)

IMO No.	Class No.	Vessel Name	Ship Type	DWT	GT	Average Ship Speed[knot]	Distance sailed[nm]	CO2 Emission[ton]	Ref. CO2 Emission[ton]	AER	Attained CII
99999990	99999990	<u>NK DUMMY SHIP 1</u>	CONTAINER CARRIER	20,874	16,363	12.36	38,558.9	7,406.28	11,313.99	9.2	9.2
99999991	99999991	<u>NK DUMMY SHIP 2</u>	GENERAL CARGO	31,114	19,942	13.02	11,450	2,333.52	11,605.94	6.55	6.55
99999992	99999992	<u>NK DUMMY SHIP 3</u>	GENERAL CARGO	16,114	12,454	10.13	27,851	3,122.48	1,400.96	6.96	6.96
99999993	99999993	<u>NK DUMMY SHIP 4</u>	BULK CARRIER	34,445	20,746	15.4	75,988	25,177.17	21,764.95	9.62	9.62

- CII Fleet Monitoring allows you to check CII rating details for each fleet.

ClassNK ZETA Logout

Select or enter a fleet name.
test1

< CII Fleet Monitoring

Display Period
From Date: 2021-01-01
To Date: 2021-12-31

Reference Period
From Date: 2020-01-01
To Date: 2020-12-31

[EXPORT PDF](#)

IMO No.	Class No.	Vessel Name	Ship Type	DWT	GT	Average Ship Speed[knot]	Distance sailed[nm]	CII Rating	Attained CII	Required CII	CO2 Emission[ton]	Ref. period CII(past)
99999990	99999990	NK DUMMY SHIP 1	CONTAINER CARRIER	20,874	16,363	12.36	38,558.9	A	9.2	15.32	7,406.28	A
99999991	99999991	NK DUMMY SHIP 2	GENERAL CARGO	31,114	19,942	13.02	11,450	A	6.55	8.83	2,333.52	A
99999992	99999992	NK DUMMY SHIP 3	GENERAL CARGO	16,114	12,454	10.13	27,851	A	6.96	13.58	3,122.48	A
99999993	99999993	NK DUMMY SHIP 4	BULK CARRIER	34,445	20,746	15.4	75,988	E	9.62	7.15	25,177.17	E

Rows per page: 10 1-4 of 4

Callouts:

- Specify the period for calculating CII rating (points to Display Period To Date)
- Specify the period for calculating CII rating to be compared (Ref. CII rating) (points to Reference Period To Date)
- Download displayed information in PDF format (points to EXPORT PDF button)
- CII rating (points to CII Rating column)
- CII rating to be compared (points to Ref. period CII(past) column)

Fleet Monitoring : EU-ETS Fleet Management

- EU-ETS Fleet Management allows you to check CO2 emissions subject to EU-ETS for entire fleet, including the surplus/shortfall of EUA for the emissions.

ClassNK ZETA Regulatory Reporting

Report: EU-ETS (Fleet wide selected)

Total CO₂ emission 2023: 312941.6 tons

84000 tons EUA held

56329.4 tons Internal EUA

93882.4 tons CO₂ emission EU ETS 2024 (40%)

37552.9 tons External EUA

-9882.4 tons Remaining EUA

CO₂ emissions (Transitional measure applied)

Received EUA from other company

Self purchased EUA

Total entered owned EUA for each vessel

NOON

Fleet Summary

MANAGEMENT COMPANY	ADMIN COUNTRY	IMO	Vessel Name	Ship Type	GT	DWT	Distance sailed (nm)	Actual CO ₂ emissions (tons)	EU ETS CO ₂ emissions (tons)	CO ₂ emissions EU ETS 2024 (tons)	TOTAL EUA
-	-	9999990	NK DUMMY SHIP	Bulk Carrier	99999	88888	0.0	0.0	-	0.0	0
-	-	9999991	NK DUMMY SHIP 1	Bulk Carrier	99999	88888	0.0	0.0	-	0.0	0
-	-	9999992	NK DUMMY SHIP 2	Container Ship	99999	88888	0.0	0.0	-	0.0	0
-	-	9999993	NK DUMMY SHIP 3	Bulk Carrier	99999	88888	0.0	0.0	-	0.0	0
-	-	9999994	NK DUMMY SHIP 4	Container Ship	99999	88888	4209.0	3414.5	1631.7	652.7	0
-	-	9999995	NK DUMMY SHIP 5	Container Ship	99999	88888	10150.0	10910.9	5324.7	2129.9	1100
-	-	9999996	NK DUMMY SHIP 6	LNG Tanker	99999	88888	5027.0	6090.6	2540.8	-	-
-	-	9999997	NK DUMMY SHIP 7	LNG Tanker	99999	88888	11183.0	19302.2	6956.2	-	-
-	-	9999998	NK DUMMY SHIP 8	Container Ship	99999	88888	9631.0	11810.9	7136.3	-	-
-	-	9999999	NK DUMMY SHIP 9	Container Ship	99999	88888	0.0	0.0	-	0.0	0
-	-	9999910	NK DUMMY SHIP 10	Vehicle Carrier	99999	88888	1604.0	385.0	202.6	81.0	0
-	-	9999911	NK DUMMY SHIP 11	LNG Tanker	99999	88888	0.0	0.0	-	0.0	0

EXPORT REPORT

Show surplus/shortfall of EUA

- Simulation allows you to simulate CO2 emissions and CII rating when changing ship speed, installing energy-saving device or switching fuels.
- Access each page by clicking the top of each tile.

ClassNK ZETA Logout

CII simulation of this year
Year end simulation in the current trend
Case of
- slow steaming
- using ESD
- using another fuel
Access CII simulation of this year

Vessel simulation
CO2 Emission & CII Rating Simulation in the past period
Case of
- slow steaming
- using ESD
- using another fuel
Access Vessel Simulation page

Fleet simulation
CO2 Emission & CII Rating Simulation in the past period
Case of
- slow steaming
- using ESD
- using another fuel
Access Fleet Simulation page

Simulation: Vessel Simulation (1)

- Vessel Simulation allows you to simulate the improvement of CO2 emissions and CII rating for each vessel by changing ship speed etc. for actual voyage data before the simulation.

ClassNK ZETA Logout

Select or enter a ship name or IMO number.

Vessel Simulation

Display Period
 From Date: 2021-01-01 To Date: 2021-12-31

① Select or enter a ship to be displayed

② Specify simulation period

③ Enter ship speed using simulation

③ Enter improved CO2 emissions (%) from installing energy-saving device

③ Select fuel using simulation

④ Click button to start simulation

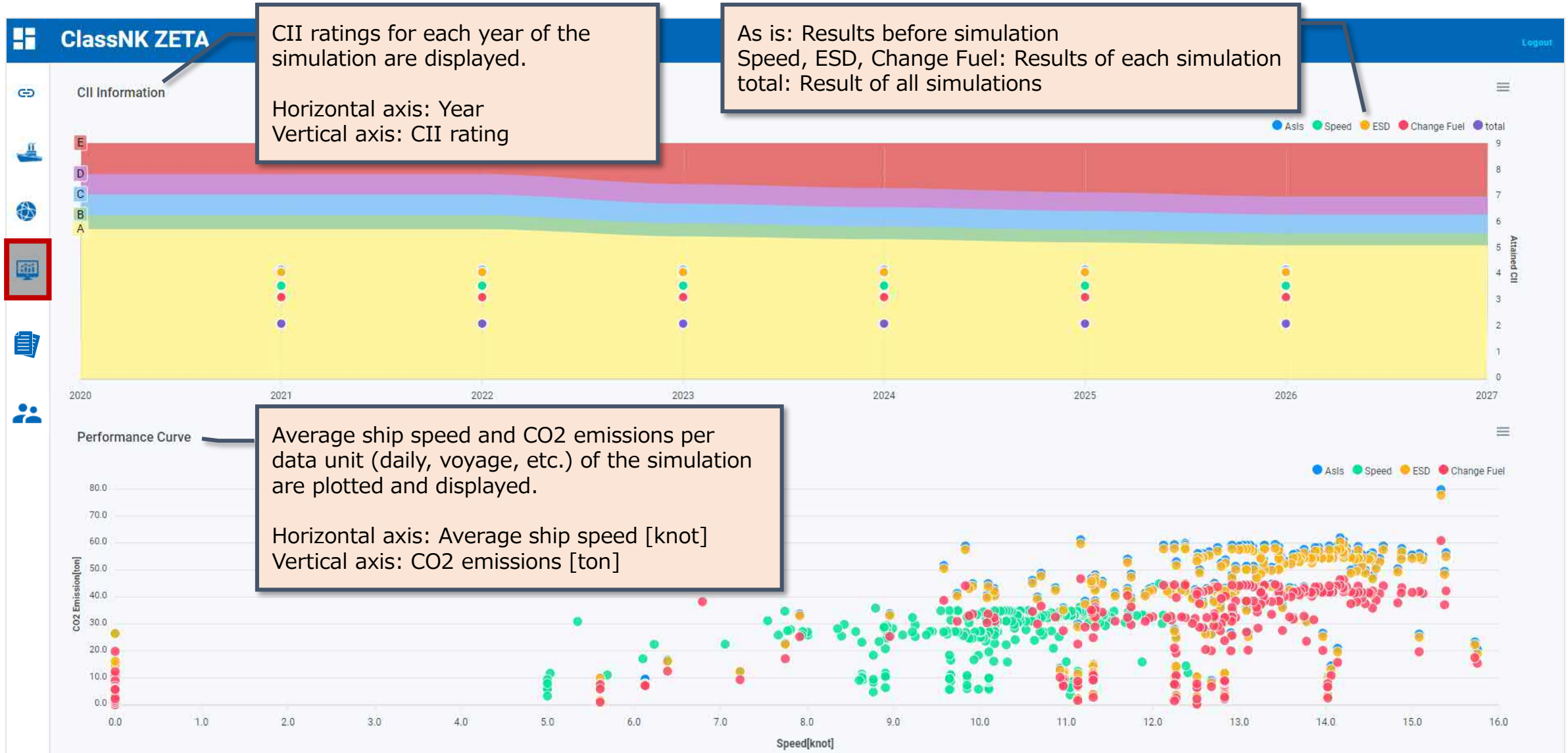
Simulated CO2 emission reduction results

Simulated improved CII rating results

Current performance (before simulation)

Type	Ship Speed[knot]	ESD[%]	Fuel Kind	CO2 Emission[ton]	Dif CO2 Emission[ton]	Distance[nm]	Attained CII	CII Rating (2022)	CII Rating (2023)	CII Rating (2024)	CII Rating (2025)	CII Rating (2026)	CII Rating (2027)
As Is	12.36	0	LSFO, MGO	7,406.28	0	38,558.9	9.2	A	A	A	A	A	A
Speed	<input type="text" value="10"/>	0	LSFO, MGO	4,118.42						A	A	A	A
ESD	12.36	<input type="text" value="3"/>	LSFO, MGO	7,361.98	-44.29	38,558.9	9.15	A	A	A	A	A	A
Change Fuel	12.36	0	LSFO → <input type="text" value="LSFO"/> MGO → <input type="text" value="MGO"/>	7,406.28	0	38,558.9	9.2	A	A	A	A	A	A
START	total			4,074.12	-3,332.15	31,181.03	6.26	A	A	A	A	A	A

Simulation: Vessel Simulation (2)



Simulation: Vessel Simulation (3)

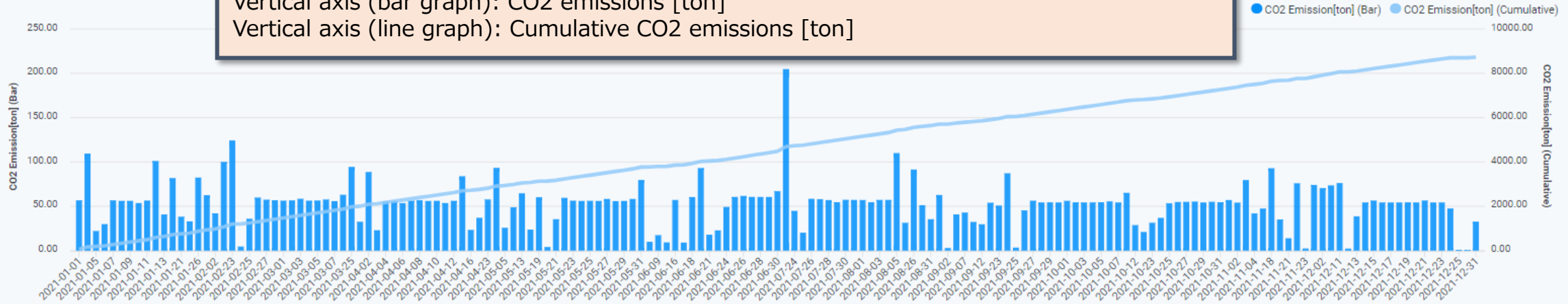
① Select type of simulation to be displayed

Download displayed information in SVG, PNG, CSV formats

CO2 emissions of the simulation per data unit (daily, voyage, etc.) and the cumulative CO2 emissions are displayed.

Horizontal axis: Date
Vertical axis (bar graph): CO2 emissions [ton]
Vertical axis (line graph): Cumulative CO2 emissions [ton]

As Is
CO2 Emission



Simulation: Fleet Simulation (1)

- Fleet Simulation allows you to simulate CO2 emissions and CII rating for each fleet.

ClassNK ZETA Logout

Select or enter a shiptype. | Select or enter a fleet name.

Fleet Simulation

Display Period
From Date: 2021-01-01 | To Date: 2021-12-31

Speed[knot]: | ESD[%]: | Fuel:

Type	Category	Vessel Name	CO2 Emission[ton]	Dif CO2 Emission[ton]	Distance[nm]	Attained CII	CII Rating (2022)	CII Rating (2023)	CII Rating (2024)	CII Rating (2025)	CII Rating (2026)	CII Rating (2027)
As Is	General cargo ship DWT ≥ 20,000	NK DUMMY SHIP 2	2,333.52	0	11,450	6.55	A	A				B
		NK DUMMY SHIP 8	9,633.74	0	29,984	9.61	D	E				E
Speed(V=10)	General cargo ship DWT ≥ 20,000	NK DUMMY SHIP 2	1,265.45	-1,068.07	8,656.99	4.7	A	A				
		NK DUMMY SHIP 8	8,329.23	-1,304.51	27,522.9	9.05	D	D				
ESD(3%)	General cargo ship DWT ≥ 20,000	NK DUMMY SHIP 2	2,263.56	-69.96	11,450	6.35	A	A	A	A	A	A
		NK DUMMY SHIP 8	9,357.02	-276.72	29,984	9.33	D	D	E	E	E	E
ChangeFuel(LNG)	General cargo ship DWT ≥ 20,000	NK DUMMY SHIP 2	1,748.27	-585.24	11,450	4.91	A	A			A	A
		NK DUMMY SHIP 8	7,227.46	-2,406.28	29,984	7.21	B	B			C	C
Total	General cargo ship DWT ≥ 20,000	NK DUMMY SHIP 2	610.25	-1,723.27			A	A	A	A	A	A
		NK DUMMY SHIP 8	5,646.22	-3,987.51			A	A	A	A	A	B

① Select the CII calculation category to be displayed

Available to show the fleet registered in the Fleet Settings page (P.33)

② Specify simulation period

③ Enter improved CO2 emissions (%) by installing an energy-saving device

Current performance (before simulation)

③ Enter ship speed using simulation

③ Select fuel using simulation

④ Click button to start simulation

Simulated CO2 emission reduction

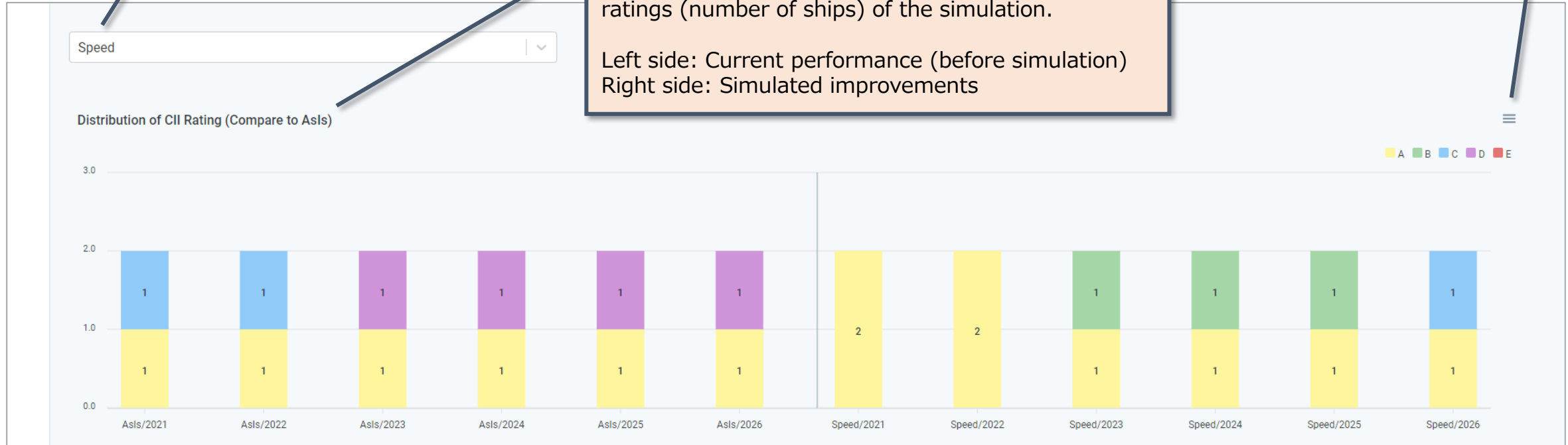
Simulated improved CII rating

Simulation: Fleet Simulation (2)

① Select type of simulation to be displayed

Download displayed information in SVG, PNG, CSV formats

The following chart shows the breakdown of CII ratings (number of ships) of the simulation.
Left side: Current performance (before simulation)
Right side: Simulated improvements



Simulation: CII simulation of this year(1)

- CII simulation of this year allows you to simulate how the CII rating and CO2 emission of each ship will change at the end of the year if the ship's speed and other factors are changed from the present time.

ClassNK ZETA

Select or enter a ship name or IMO number.
 NK DUMMY SHIP 1 | CLASS_NO: 99999990 | IMO_NO: 99999990

CII simulation of this year

Type	Ship Speed[knot]	ESD[%]	Fuel Kind	Current CO2 Emission [ton]	Annual CO2 Emission Forecast [ton]	Current Distance[nm]	Annual Distance Forecast[nm]	CII rating expected at the end of the year
As Is	11.41	0	LSFO, MGO	2,805.85	8,164.19	12,287.4	35,752.71	C
Speed	<input type="text" value="10"/>	0	LSFO, MGO	2,805.85	6,706.33	12,287.4	32,832.99	B
ESD	11.41	<input type="text" value="3"/>	LSFO, MGO	2,805.85	8,140.25	12,287.4	35,752.71	C
Change Fuel	11.41	0	LSFO → <input type="text" value="LSFO"/> MGO → <input type="text" value="MGO"/>		8,164.19	12,287.4	35,752.71	C
			total		6,682.39	12,287.4	32,832.99	B

Annotations:

- ① Select or enter a ship to be displayed
- ② Specify simulation speed
- ② Select fuel using simulation
- ② Enter improved CO2 emissions (%) from installing energy-saving device
- ③ Click button to start simulation
- Simulated CO2 emissions at the end of the year
- Simulated CII rating at the end of the year

Simulation: CII simulation of this year(2)

① Select simulation result to be displayed

The upper field displays daily CO2 emissions in a bar chart. Only one simulation result can be selected. The lower field displays cumulative CO2 emissions in a line chart. Multiple conditions can be selected.

② Specify the percentage of the forecast period without docking. The default value is 100% (no docking during the forecast period).

③ Specify the percentage operating rate of the forecast period (the percentage of voyages, excluding docking). The default value shows the operating rate so far.

Daily CO2 emissions (Bar chart)

As Is Speed ESD Change Fuel

Cumulative CO2 emissions (Line chart)

As Is Speed ESD Change Fuel

CO2 Emission



CO2 emissions per data unit (daily, voyage, etc.) and the cumulative CO2 emissions so far are displayed.

Horizontal axis: Date

Vertical axis (bar graph): CO2 emissions [ton]

Vertical axis (line graph): Cumulative CO2 emissions [ton]

The range shown in green is the future forecast period from the date of simulation to the end of the year. The simulation results selected in ① are displayed.

Download displayed information in SVG, PNG, CSV formats

Periodical Report

- Periodical Report allows you to output a report on CO2 emissions, CII rating and EEOI, etc. for each ship/fleet in PDF format.
- Access each page by clicking the top of each tile.

The screenshot shows the ClassNK ZETA interface with a blue header bar containing the logo and a 'Logout' link. A vertical sidebar on the left contains several icons, with the document icon highlighted by a red square. The main content area features two report tiles: a blue 'Vessel Report' tile and a purple 'Fleet Report' tile. Each tile includes a description of the report and a list of data points. Callout boxes with arrows point from the report titles to the document icon in the sidebar, and from the report descriptions to the respective report titles.

ClassNK ZETA Logout

✕ Vessel Report

Export the following information about your vessel as a PDF.

- Voyage Summary
- CO2 Emission
- CII Rating

Access Vessel Report page

✕ Fleet Report

Export the following information about your fleet as a PDF.

- Fleet Summary
- CO2 Emission of each vessel
- CII Rating of each vessel
- EEOI of each vessel

Access Fleet Report page

Periodical Report: Vessel Report

- Vessel report allows you to download information in PDF format, such as voyage information, performance, CO2 emissions and CII ratings, etc. for each ship.

① Select or enter ship to be displayed

② Specify the period

③ Download in PDF format

ClassNK ZETA

Select or enter a ship name or IMO number.

NK DUMMY BULK CARRIER 1 | CLASS_NO: 99999999 | IMO_NO: 99999999

Vessel Report

Report Period
From Date: 2021-01-01 To Date: 2021-12-31

NK DUMMY BULK CARRIER 1 IMO No. 99999999

Report period 2021-01-01 - 2021-12-31

Voyage Summary

Total Duration	235 d	Total Distance	63,805.3 nm
Avg. Ship Speed	13.02 knot	Port stay / Drifting	2,433 h
Total consumption	3,759.62 mt	Avg. consumption	16 mt/d
Laden Duration	0 d	Avg. draft (Laden)	-
Ballast Duration	235 d	Avg. draft (Ballast)	-

PERFORMANCE

CO2 EMISSION / CII RATING SUMMARY

Ship Type	BULK CARRIER	GT	24466
DWT	38951	Attained Cii	4.77
Cii Rating	A	Required Cii	6.62
AER	4.77	Avg. CO2 Emission	32.57 t/d
CO2 Emission	235 d		

EXPORT PDF

Periodical Report: Fleet Report

- Fleet report allows you to download information in PDF format, such as CO2 emissions, CII ratings, EEOI, etc. for each fleet.

ClassNK ZETA
Logout

Select or enter a fleet name. Fleet A

Fleet Report

Display Period
From Date: 2021-01-01 To Date: 2021-12-31

Fleet Name	Number of vessels	Total CO2 Emission [ton]	Number of CII Rating(A)	Number of CII Rating(B)	Number of CII Rating(C)	Number of CII Rating(D)	Number of CII Rating(E)
Fleet A	8	78,262	4	0	0	2	2

EXPORT PDF

IMO No. ↑	Class No.	Vessel Name	Ship Type	DWT	GT	Avg. Speed [knot]	Distance Sailed[nm]	CO2 Emission [ton]	Attained CII	Required CII	CII Rating	EEOI inc. Ballast inc. port	EEOI inc. Ballast excl. port	EEOI Laden only inc. port	EEOI Laden only excl. port
99999990	99999990	NK DUMMY SHIP 1	CONTAINER CARRIER	20,874	16,363	12.4	38,558.9	7,406	9.2	15.32	A	7.17	-	7.17	-
99999991	99999991	NK DUMMY SHIP 2	GENERAL CARGO	31,114	19,942	13	11,450	2,334	6.55	8.83	A	32.17	29.22	24.81	23.03
99999992	99999992	NK DUMMY SHIP 3	GENERAL CARGO	16,114	12,454	10.1	27,851	3,122	6.96	13.58	A	5.85	-	5.63	-
99999993	99999993	NK DUMMY SHIP 4	BULK CARRIER	34,445	20,746	15.4	75,988	25,177	9.62	7.15	E	26.08	24.49	26.08	24.49
99999994	99999994	NK DUMMY SHIP 5	BULK CARRIER	88,900	48,386	10.8	58,026	13,559	2.63	3.96	A	6.82	-	6.69	-
99999995	99999995	NK DUMMY SHIP 6	BULK/LUMBER CARRIER	27,084	16,556	10.9	32,424.6	8,732	9.94	8.3	E	-	-	-	-
99999996	99999996	NK DUMMY SHIP 7	BULK/LUMBER CARRIER	26,508	16,244	11.7	33,061	8,298	9.47	8.41	D	15.99	14.81	14.86	13.69
99999997	99999997	NK DUMMY SHIP 8	GENERAL CARGO	33,440	23,712	10.7	29,984	9,634	9.61	8.34	D	18.25	16.21	17.79	15.87

Rows per page: 10 1-8 of 8

Available to show the fleet registered in the Fleet Settings page (P.33)

① Specify the period

② Download in PDF format



Fleet Settings

- Fleet Settings allows you to set your own fleet information.

ClassNK ZETA Logout

Fleet Settings

Select the Fleet Settings

① Select here to see the fleet settings already made

Search: Select...

Fleet Name

New Fleet Name

② If you want to make a new fleet list, enter the fleet name here

Check the vessels in the fleet

Search: Ship Type

③ The list of ships can be searched by ship type

SAVE DELETE

⑤ Click SAVE to save the fleet settings (Click DELETE to delete the fleet settings)

Reload the browser after a certain time to confirm the settings are correctly updated.

<input type="checkbox"/>	IMO No. ↑	Class No.	Vessel Name	Ship Type	DWT	GT
<input type="checkbox"/>	99999990	99999990	NK DUMMY SHIP 1	CONTAINER CARRIER	20,874	16,363
<input type="checkbox"/>			SHIP 2	GENERAL CARGO	31,114	19,942
<input type="checkbox"/>			SHIP 3	GENERAL CARGO	16,114	12,454
<input type="checkbox"/>	99999993	99999993	NK DUMMY SHIP 4	BULK CARRIER	34,445	20,746

④ Select/unselect ships to be included/exclude in the fleet