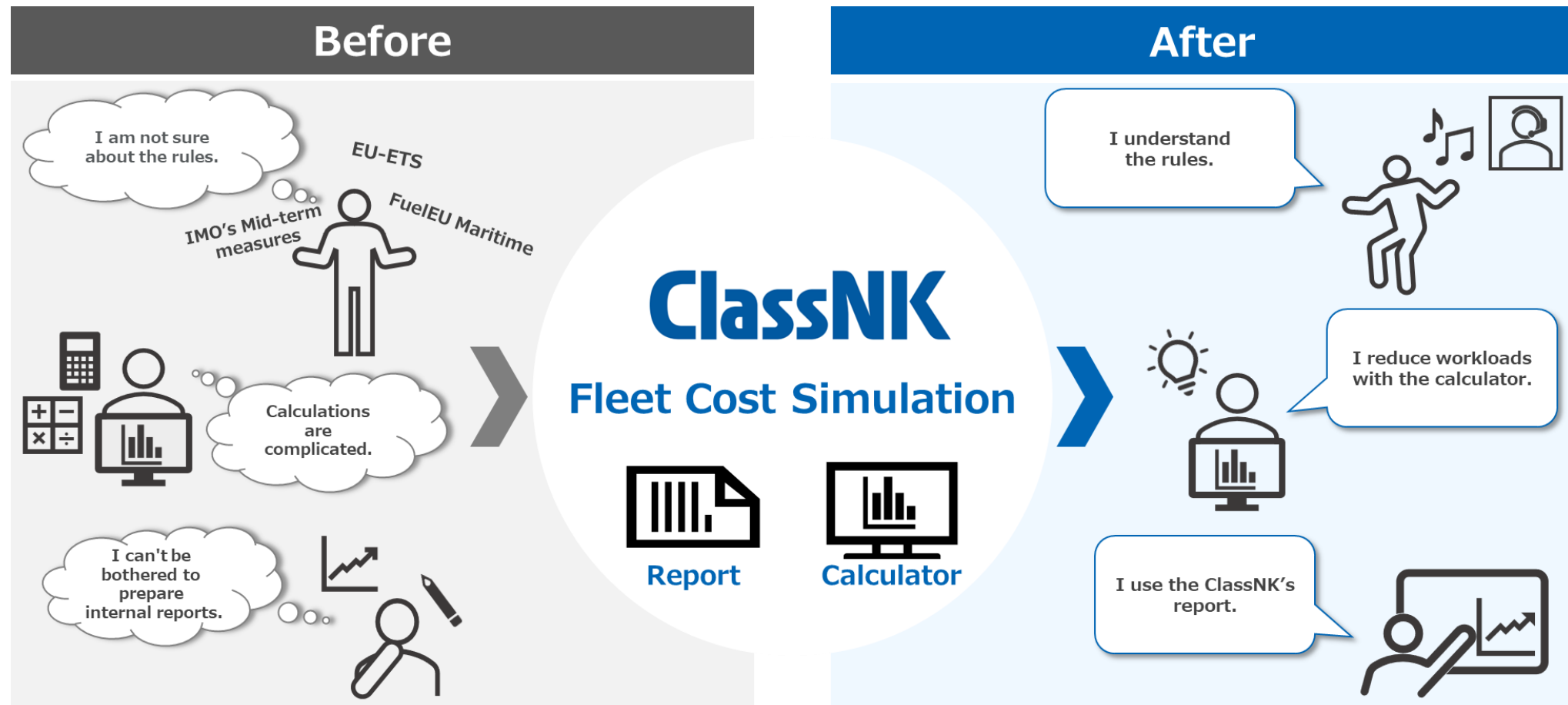


ClassNK Fleet Cost Simulation



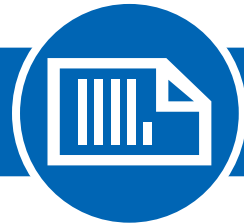
What Is ClassNK Fleet Cost Simulation?

"ClassNK Fleet Cost Simulation" is a service through which ClassNK performs complex evaluation tasks on behalf of clients, including estimating future costs driven by regulations (such as the IMO's Mid-term measures). The introduction of this service not only **significantly reduces your workloads** for cost estimation but also provides the reliable cost data that serves as a foundation for forward-looking business planning.



Value Provided by ClassNK Fleet Cost Simulation

ClassNK Fleet Cost Simulation provides a "[Cost Estimation Report](#)" with clear cost estimations based on ClassNK's analysis, as well as a "[ClassNK Fleet Cost Calculator](#)" for your fleet strategy.



Report

Cost Estimation Report

- ✓ The report quantitatively visualizes total costs through 2050 based on actual fuel consumption.
- ✓ The estimation comprehensively reflects costs including shipbuilding, fuel, and regulatory compliance.
- ✓ The report is provided in PowerPoint format, so it can be used as a reporting document for management.
- ✓ [\[Additional Service\]](#) The custom-made report can be provided to simulate the timing and effects of fuel conversion for cost optimization.



Calculator

ClassNK Fleet Cost Calculator

- ✓ "[ClassNK Fleet Cost Calculator](#)" is a calculation tool that enables cost estimations under various conditions.
- ✓ The calculator is Excel format that allows for flexible customization, such as setting your own parameters, etc.
- ✓ The tool accurately simulates the impact of major regulations: IMO GFI, EU-ETS, and FuelEU Maritime.
- ✓ Updates* are provided in response to regulatory changes, allowing you to consider future costs.

*The updates are scheduled to be implemented before the IMO GFI come into effect (December 31, 2027).

Cost Estimation Report - Sample

For [Company Name]

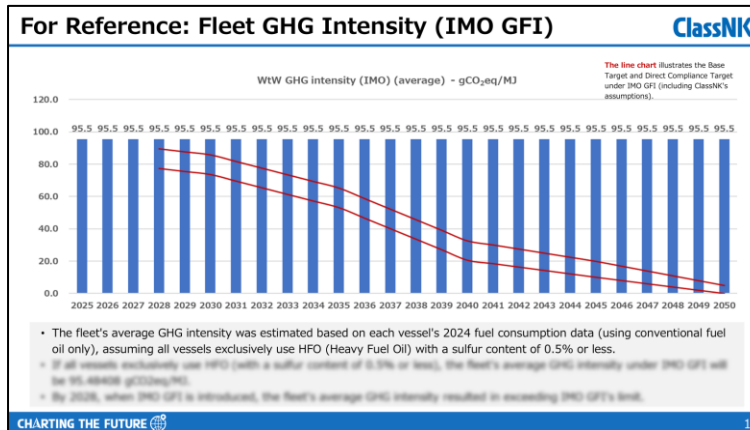
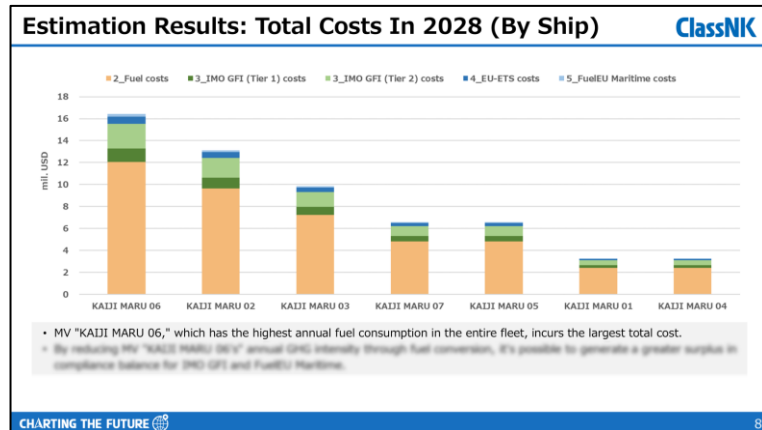
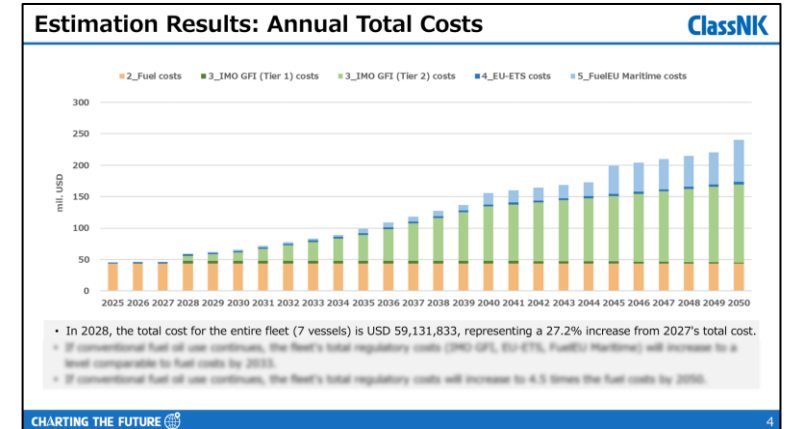
ClassNK Fleet Cost Simulation
Cost Estimation Report (Sample)

Created: [Month Day, Year]
 Nippon Kaiji Kyokai (ClassNK)
 Green Transformation Center

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CHARTING THE FUTURE



Assumptions: Fleet Data

No.	IMO No.	Ship name	Ship type	GT	DWT	Year built	Main engine	Fuel consumptions [tonne HFOeq]
1	1000001	KAIJI MARU 01	Bulk carrier	36,000	64,000	2015	Conventional fuel oil	5,000
2	1000002	KAIJI MARU 02	Containership	130,000	150,000	2018	Conventional fuel oil	20,000
3	1000003	KAIJI MARU 03	Crude oil tanker	150,000	300,000	2020	Conventional fuel oil	15,000
4	1000004	KAIJI MARU 04	Product/Chemical tanker	30,000	50,000	2020	Conventional fuel oil	5,000
5	1000005	KAIJI MARU 05	LPG carrier	53,000	60,000	2022	Conventional fuel oil	10,000
6	1000006	KAIJI MARU 06	LNG carrier	110,000	100,000	2025	Conventional fuel oil	25,000
7	1000007	KAIJI MARU 07	Vehicle carrier	80,000	30,000	2025	Conventional fuel oil	10,000

CHARTING THE FUTURE

- ✓ For details, please refer to "Cost Estimation Report (Sample)."
- ✓ Please note that additional reports resulting from the updates to the calculator are not provided free of charge.

Calculator: Features and Characteristics - 1

Automatic calculation by Fleet Base



- Calculate total costs for the **entire fleet** automatically.
- **No restrictions** on the number of vessels.
- Display total costs for **individual vessels**.
- Output **cumulative costs** in the future.

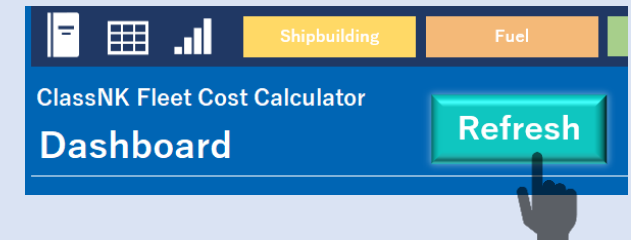
Fleet information ->

No.	IMO No.	Ship name	Year built	Year scrapped	Ship type
1	1000001	KAUJI MARU 01	2025	2050	Bulk carrier
2	1000002	KAUJI MARU 02	2025	2050	Containership
3	1000003	KAUJI MARU 03	2025	2050	Crude oil tanker
4	1000004	KAUJI MARU 04	2025	2050	Product/Chemical tanker
5	1000005	KAUJI MARU 05	2025	2050	LPG carrier
6	1000006	KAUJI MARU 06	2025	2050	LNG carrier
7	1000007	KAUJI MARU 07	2025	2050	Vehicle carrier

One-Click graph creation



- Visualize cost structures in graphs with **one-click**.
- Analyze **fleet GHG intensity** with other factors.
- Visualize **cost comparison** of individual vessels with and without fuel conversion.



Excel-Based tool that runs on the desktop



- No **internet connection** or **login** required.
- Ensure **transparency** and **reliability** by disclosing all calculation logic.
- **Customize** assumptions and parameters as you want.



Responding to regulatory updates

Adoption of Mid-term measures

Guidelines related to Mid-term measures

LCA Guidelines

Entry into force of Mid-term measures



Calculator: Features and Characteristics - 2

You can flexibly set detailed assumptions, such as fuel prices.



Year of
built/scrapped



Ship price



Ship price
payment period



Fuel price



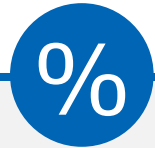
Energy efficiency
improvement rate



Engine type for LNG



Pilot fuel



Usage ratio of fuel



Conversion factors



Share subject to
EU Regulations



EUA price
(EU-ETS)



Wind-Assisted
Propulsion Systems
(FuelEU Maritime)



Other costs



Exchange rate
(USD/EURO)



Japanese/English

Calculator - Screen Images

Input by fleet unit

Shipbuilding

Fuel

IMO GFI

EU-ETS

FuelEU

Other

ClassNK Fleet Cost Calculator

Data input

Input vessel information

Select a main engine

Select a fuel type

Fleet information ->

Ship price ->

Fuel select ->

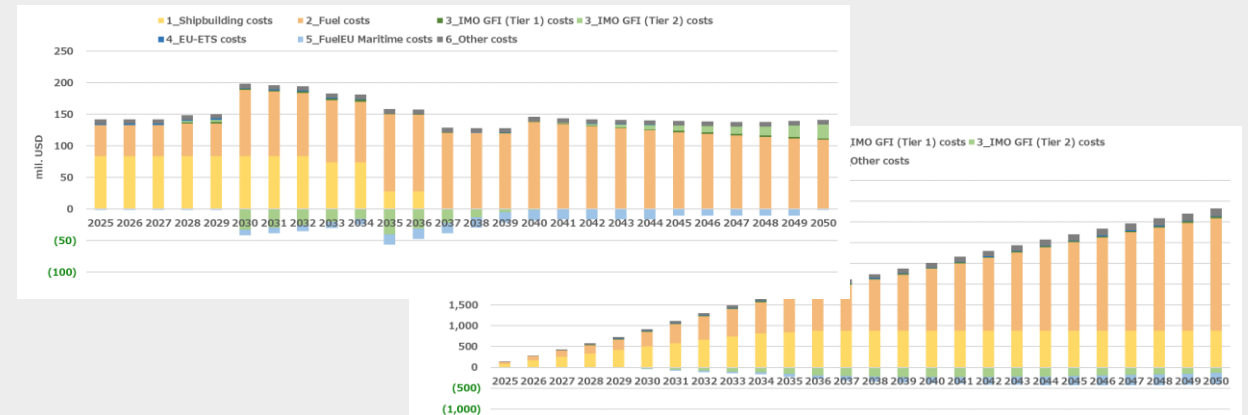
Select ships

No.	IMO No.	Ship name	Year built	Year scrapped	Ship type	ME	ME (for LNG)	Ship's residual value	Remaining payment period	FC (HFO base)	Energy share	2025	2026	2027	2028
1	1000001	KAIJI MARU 01	2025	2050	Bulk carrier	Fuel_oil		USD 35,000,000	8 years	5,000 t	5.6%	HFO	HFO	HFO	Biodiesel (B-30)
2	1000002	KAIJI MARU 02	2025	2050	Containership	LNG	(Otto dual fuel slow speed)	USD 160,000,000	10 years	20,000 t	22.2%	LNG	LNG	LNG	LNG
3	1000003	KAIJI MARU 03	2025	2050	Crude oil tanker	Ammonia		USD 150,000,000	12 years	15,000 t	16.7%	HFO	HFO	HFO	HFO
4	1000004	KAIJI MARU 04	2025	2050	Product/Chemical tanker	Methanol		USD 40,000,000	8 years	5,000 t	5.6%	HFO	HFO	HFO	HFO
5	1000005	KAIJI MARU 05	2025	2050	LPG carrier	LPG		USD 100,000,000	10 years	10,000 t	11.1%	LPG (Propane)	LPG (Propane)	LPG (Propane)	LPG (Propane)
6	1000006	KAIJI MARU 06	2025	2050	LNG carrier	LNG	(Diesel dual fuel slow speed)	USD 200,000,000	10 years	25,000 t	27.8%	LNG	LNG	LNG	LNG
7	1000007	KAIJI MARU 07	2025	2050	Vehicle carrier	Hydrogen		USD 190,000,000	12 years	10,000 t	11.1%	HFO	HFO	HFO	Biodiesel (B-30)

Check total cost for individual vessels

Select ships						
KAIJI MARU 01						
Year	2025	2026	2027	2028	2029	
Shipbuilding costs	4,375,000	4,375,000	4,375,000	4,375,000	4,375,000	4,375,000
Fuel costs	2,412,000	2,412,000	2,412,000	4,420,970	4,640,000	4,640,000
IMO GFI (Tier 1) costs					0	
IMO GFI (Tier 2) costs				(115,937)		
EU-ETS costs	87,074	126,879	129,417	97,963	97,963	97,963
FuelEU Maritime costs	34,949	38,444	41,939	(278,259)	(278,259)	(278,259)
Other costs	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total costs	7,909,023	7,952,323	7,958,356	9,499,737	9,840,000	9,840,000
Total costs (/t HFOeq)	1,582	1,590	1,592	1,900	1,900	1,900
Regulatory costs (/t HFOeq)	24	33	34	(59)	(59)	(59)

Visualize estimation results in graphs



Fees

Standard Service

(Excluding VAT)

**Cost Estimation Report^{*1}
& ClassNK Fleet Cost Calculator**

\$6,500/company

^{*1} We provide you with a report detailing the total projected costs through 2050, calculated based on the historical fuel consumption data.
The report can be utilized as foundational material for considering future fuel conversions.

Additional Service

Cost Estimation Report (Advanced Version)^{*2}

**Contact us
(Custom pricing)**

^{*2} Upon request, we provide the advanced version of the report that analyzes the timing and effects of fuel conversion for cost optimization.
Consultations on the assumptions for the estimation are also available.

- ※ "Standard Service" fee is flat rate per company, regardless of the number of vessels.
- ※ The report is created and provided once per application.
- ※ The updates to the calculator in response to regulatory changes are also provided.
- ※ "Additional Service" is provided upon request after "Standard Service" have been provided. Please apply for "Standard Service" first.

Our Service Process

ClassNK

Clients

Step 1

Quotation



Step 2

Application & Data Submission



Step 3

Delivery of Report & Calculator



Delivery within one week after receiving data
(Additional Service: Upon request)

Step 1

Upon your request, ClassNK will send a quotation to you.

Step 2

Please send the application form and the fleet data by email to gxc@classnk.or.jp.

Step 3

ClassNK will provide you with the report and the calculator (with the data already input).

FAQ - 1

Q Is this service available non-shipping companies as well?

A Yes, you can use the service. When applying, please share the provisional fleet data.

Q Is this service available when the ships are registered with other classification societies?

A Yes, all vessels are eligible, regardless of class. Please provide us with fuel consumption data.

Q Is this service available when the fleet data is provisional data?

A We also support estimations using provisional data. By using the calculator, of course, you can recalculate and adjust the estimations by yourself based on your own actual data.

FAQ - 2

Q Is it necessary to conclude a NDA when submitting the fleet data?

A The information you provide is strictly managed as confidential in accordance with our "REGULATIONS FOR TECHNICAL SERVICES" and is not used for any purpose other than this service. If requested, a NDA can be concluded.

Q I am a ClassNK MRV Portal user. Is it necessary to submit the fuel consumption data?

A There is no need to submit the fuel consumption data. ClassNK can input the data for you. When applying for the service, please provide us with the fleet list and let us know the data input request.

Q Can I specify the assumptions used in the estimation?

A Yes, you can. If you need an estimation that reflects your predicted fuel prices or other factors, please let us know when you apply. If you do not specify any assumptions, ClassNK's standard assumptions are used.

FAQ - 3

Q Is this service take fuel supply outlook into consideration?

A This service is intended to estimate costs based on the provided information and the assumptions and does not include forecasts of future market trends regarding fuel supply.

Q Is it possible to share the calculator within the company?

A You may share the calculator within your company. However, please refrain from distributing or sharing the calculator with other companies (including group companies).

Q Can I apply for Standard Service and Additional Service at the same time?

A We kindly ask that you first apply for the "Standard Service" and review its results. After that, if you require a simulation that includes fuel conversion, you can then apply for the "Additional Service."

Notes and Disclaimer

Notes

- ✓ Some functions of the calculator are available only in newer versions of excel such as Excel 2021 and Microsoft 365. Please note that the calculator may not work properly depending on your version of excel.
- ✓ The calculator uses macros for some of its functions, so please enable macros before using the calculator for the first time.
- ✓ Please note that we are unable to provide support for any malfunctions resulting from edits or modifications made to the calculator.
- ✓ Please refrain from distributing or sharing the calculator with other companies (including group companies).

Disclaimer

- ✓ We provide the service with the utmost care, but we do not guarantee its usefulness or accuracy. We are not responsible for any damage caused using the service.

For More Information

CONTACT

Nippon Kaiji Kyokai (ClassNK) Green Transformation Center

4-7, Kioi-cho, Chiyoda-ku, Tokyo 102-8567
Japan

TEL: +81-3-5226-2031

E-mail: gxc@classnk.or.jp

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Thank you