

Welcome to the webinar – we will begin shortly...

# Maritime Book & Claim

Explaining Book & Claim and our system design

Project Partners

Project Funding



# On today's panel



**Frederik Jacobsen**

Project Manager

Mærsk Mc-Kinney Møller Center for  
Zero Carbon Shipping



**Victoria Ji**

Secondee Business & Economics

Mærsk Mc-Kinney Møller Center for  
Zero Carbon Shipping

Seconded by Cargill



**Aparajit Pandey**

Shipping Decarbonization Manager

RMI



**Oscar Hernandez**

Associate

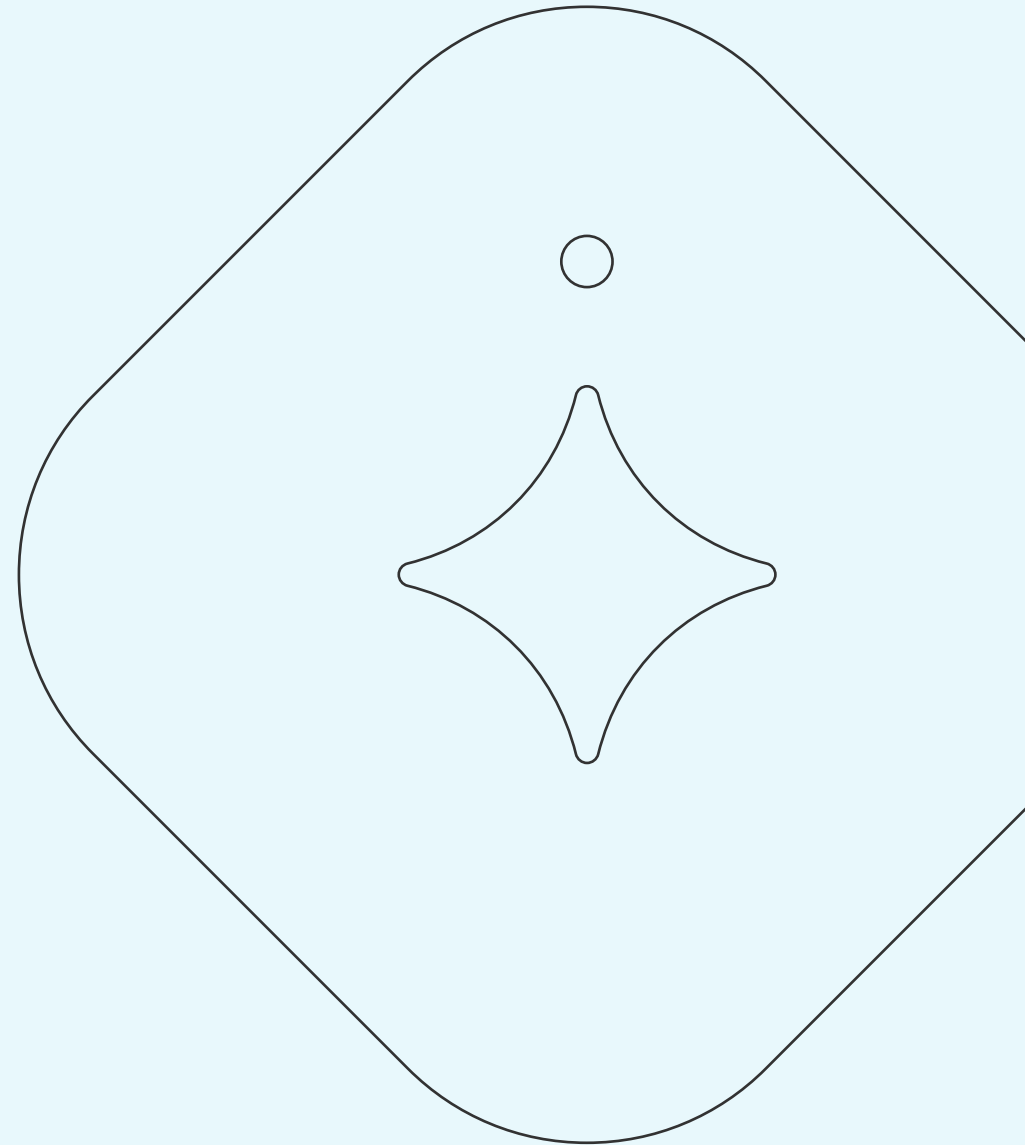
RMI





# On today's agenda:

- 01 Introduction
- 02 Understanding Book & Claim
- 03 Our Maritime Book & Claim System
- 04 Benefits of our Book & Claim
- 05 Next steps – a brief intro of the pilot
- 06 Audience Q&A



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**#MBC**



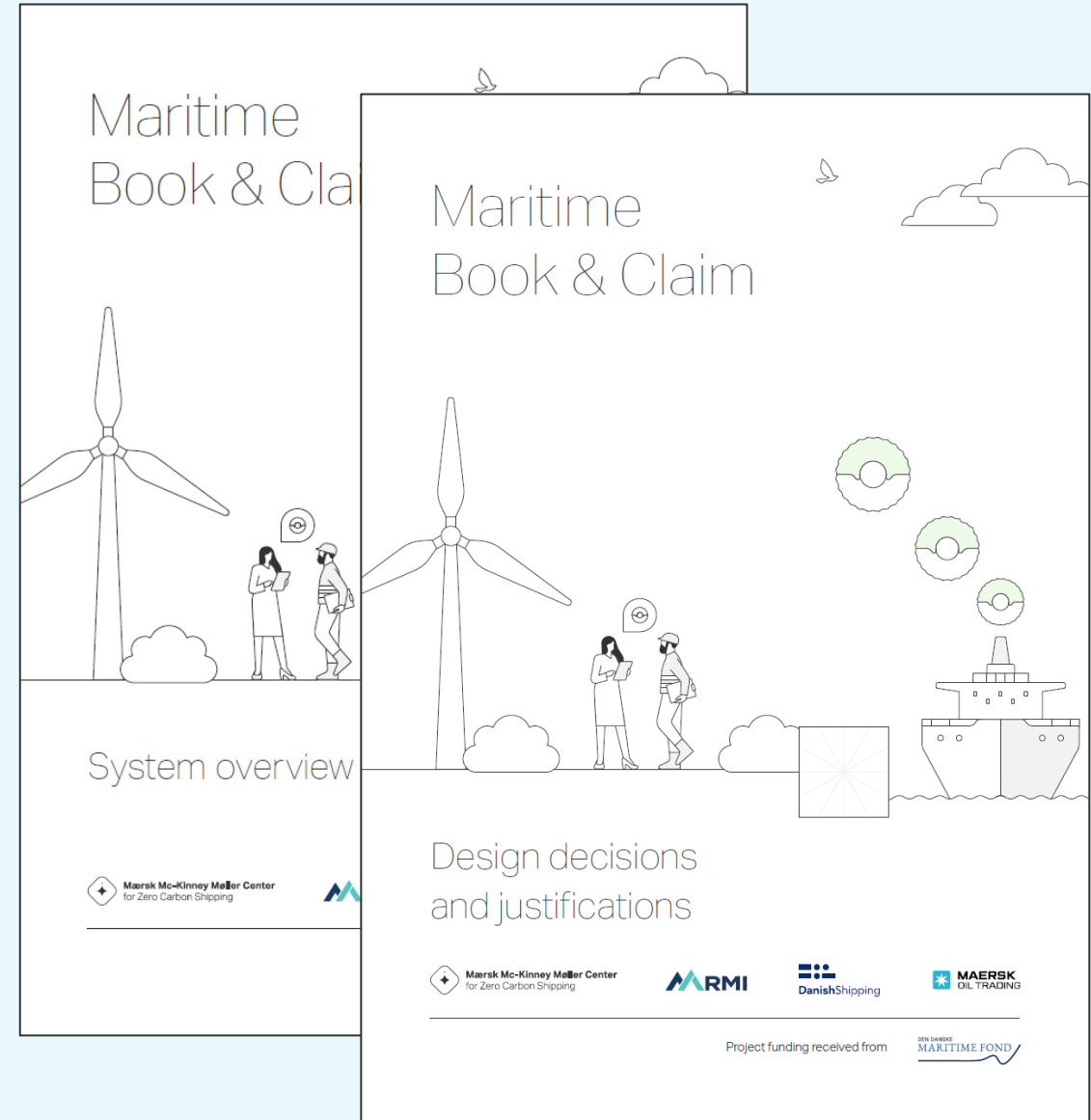
Project Partners

Project Funding



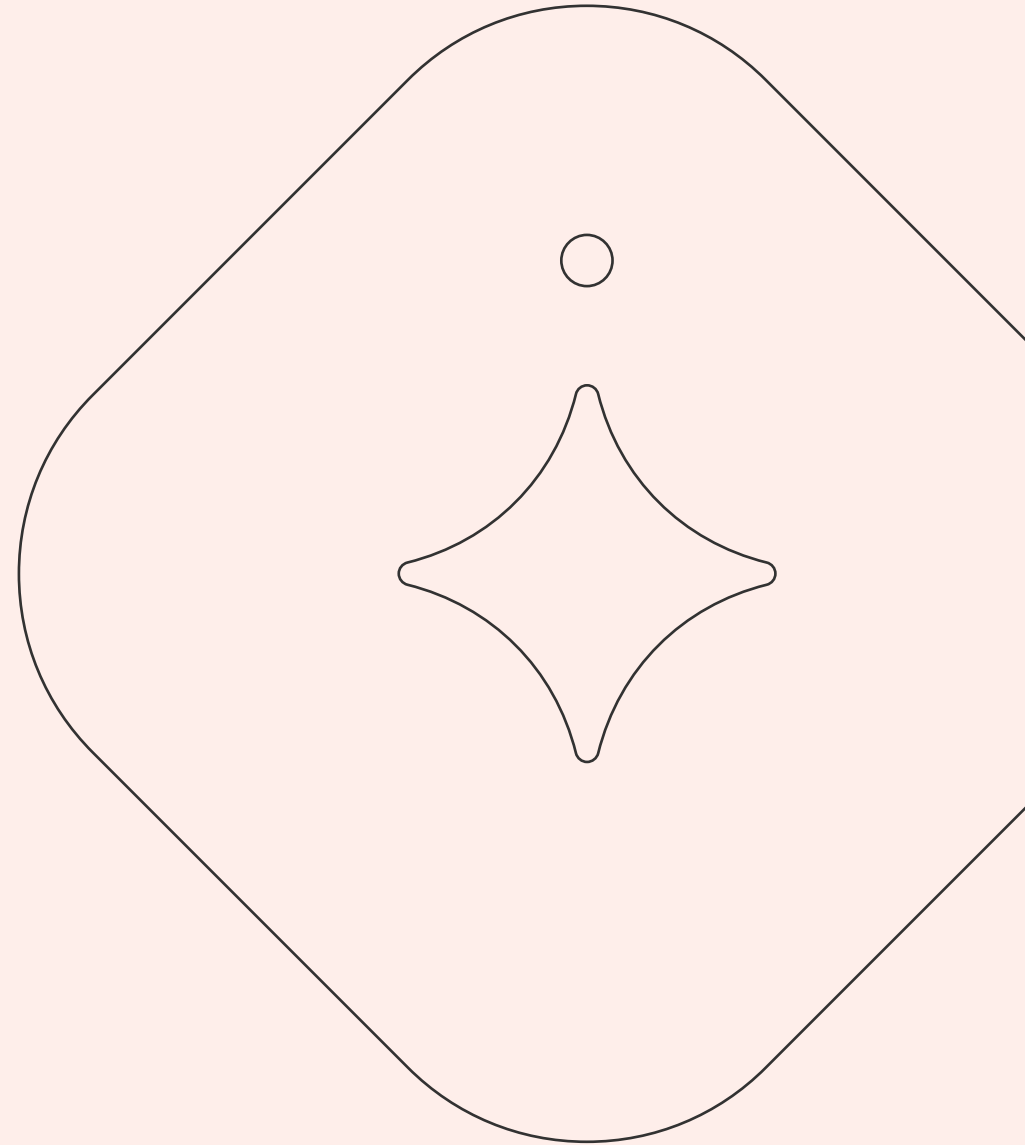
**Two reports were recently published outlining the Maritime Book & Claim System this project has designed.**

- System Overview
- Design decisions and justifications



Download these reports and many other publications on [www.zerocarbonshipping.com](http://www.zerocarbonshipping.com)

# Understanding Book & Claim

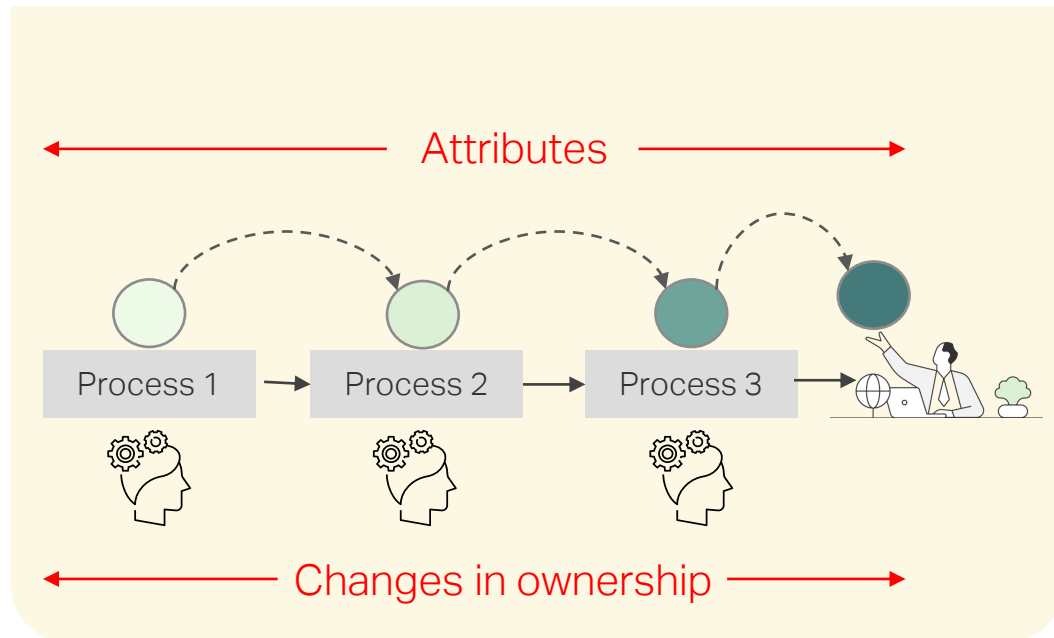


# What exactly is Book & Claim?

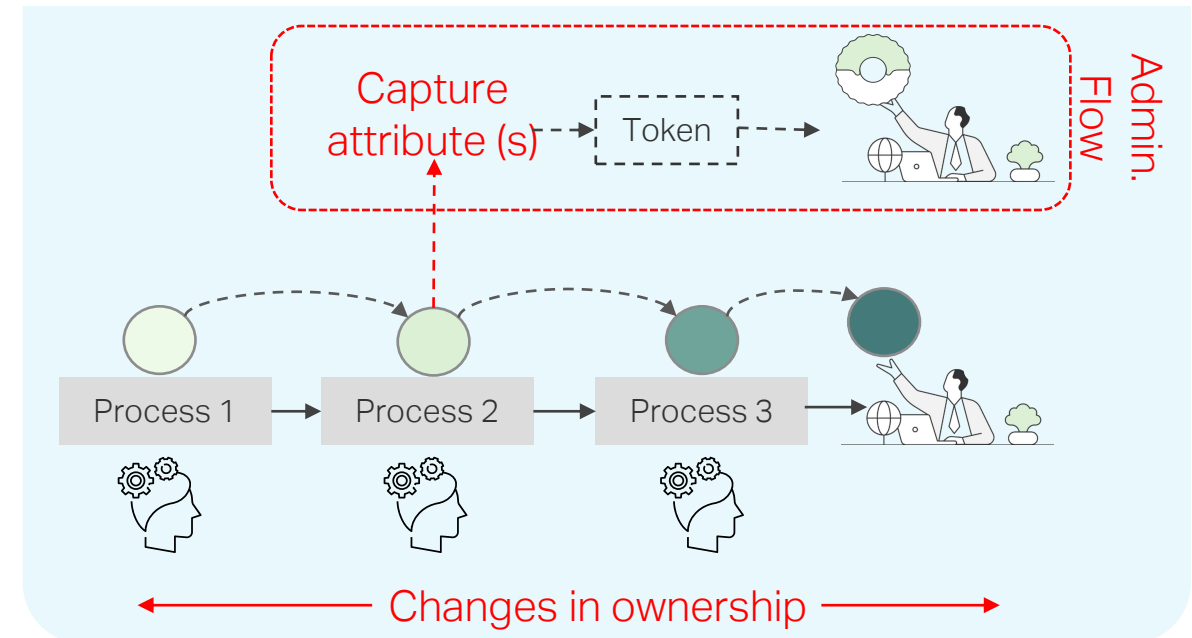


"A chain of custody model in which the administrative record flow is not necessarily connected to the physical flow of material or product throughout the supply chain"<sup>1</sup>

## Set of measures to control



## Decoupling flows

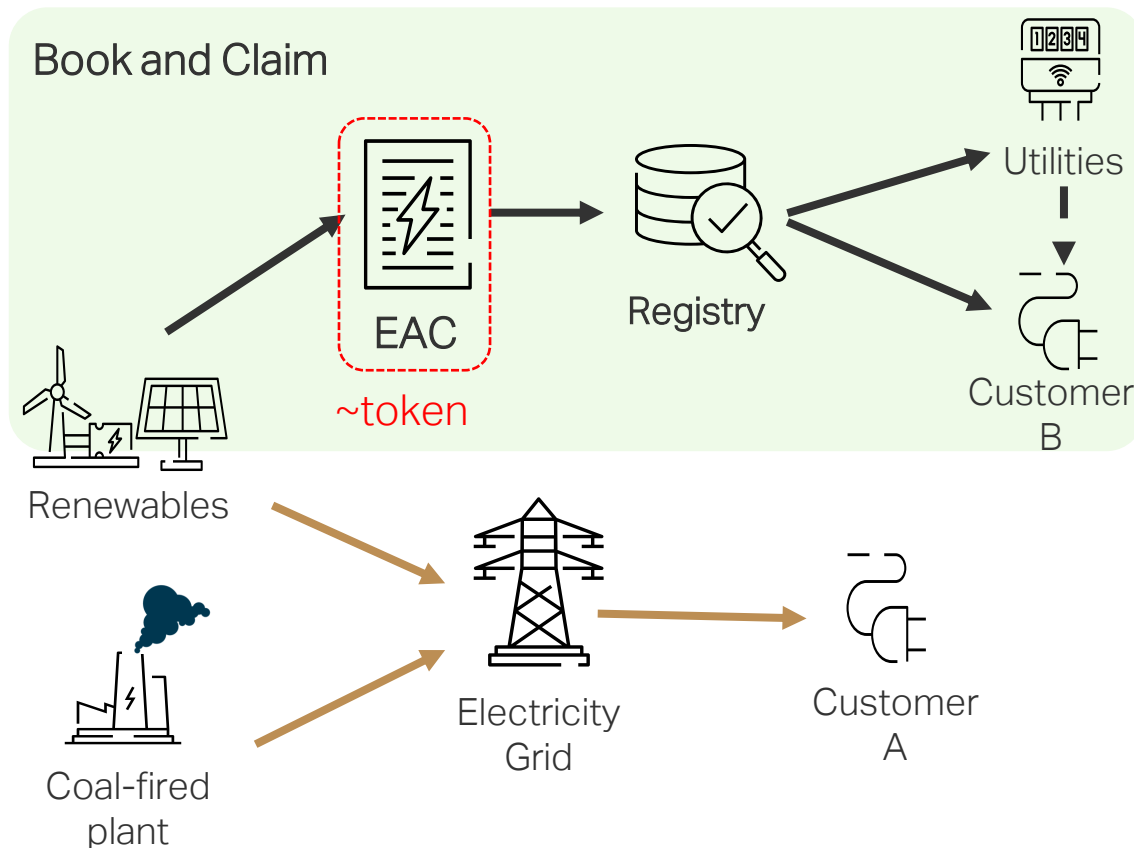


There are successful experiences in implementing Book and Claim system that have supported the development of cleaner sources of energy



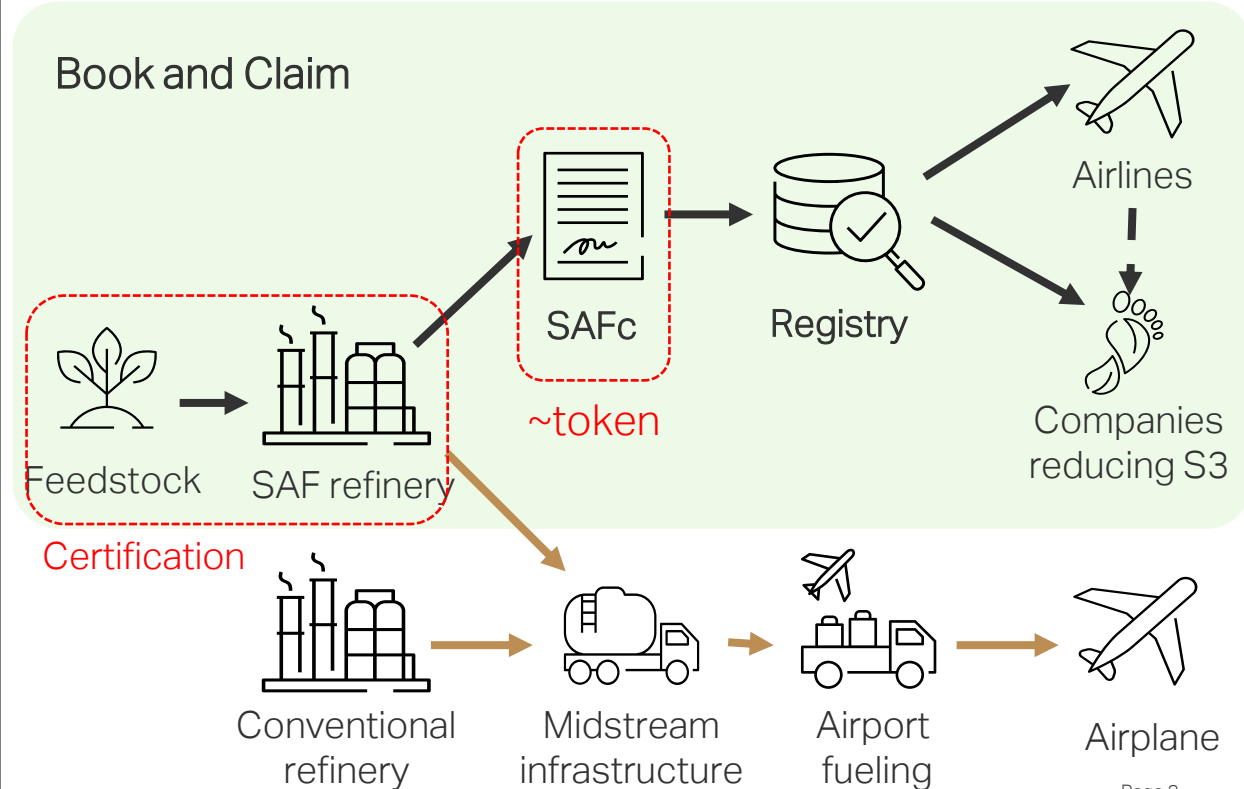
## Electricity

Energy Attribute Certificates (EAC)



## Aviation

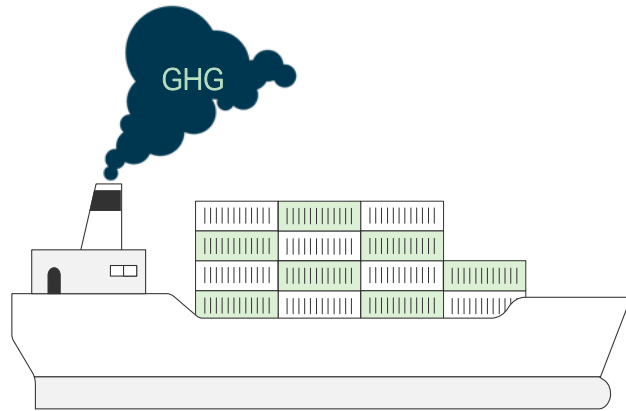
Sustainable Aviation Fuel (SAFc)



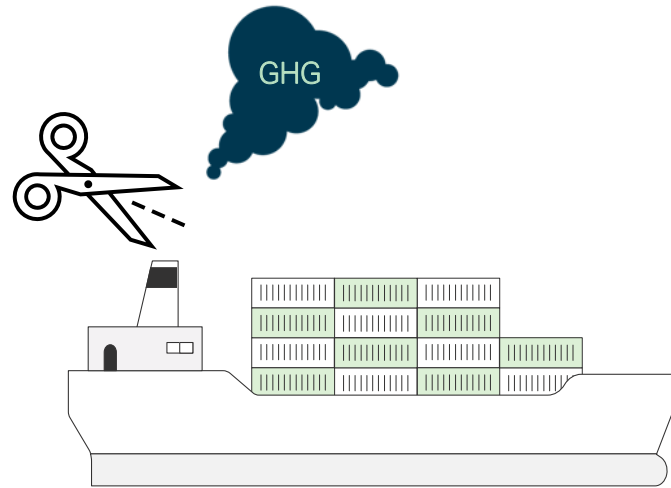


# How would B&C support decarbonization in the maritime industry?

## Track emissions



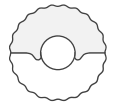
## Disconnect emissions



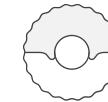
After defining the attributes to be included in the Book and Claim (GHG emissions), there are remaining issues to be addressed such where to decouple the value chain, what are the key point to verify and mitigate risks, and who are the key players (gatekeepers).

## Book & Claim emissions

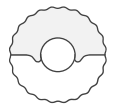
Emissions Uploaded



Booked



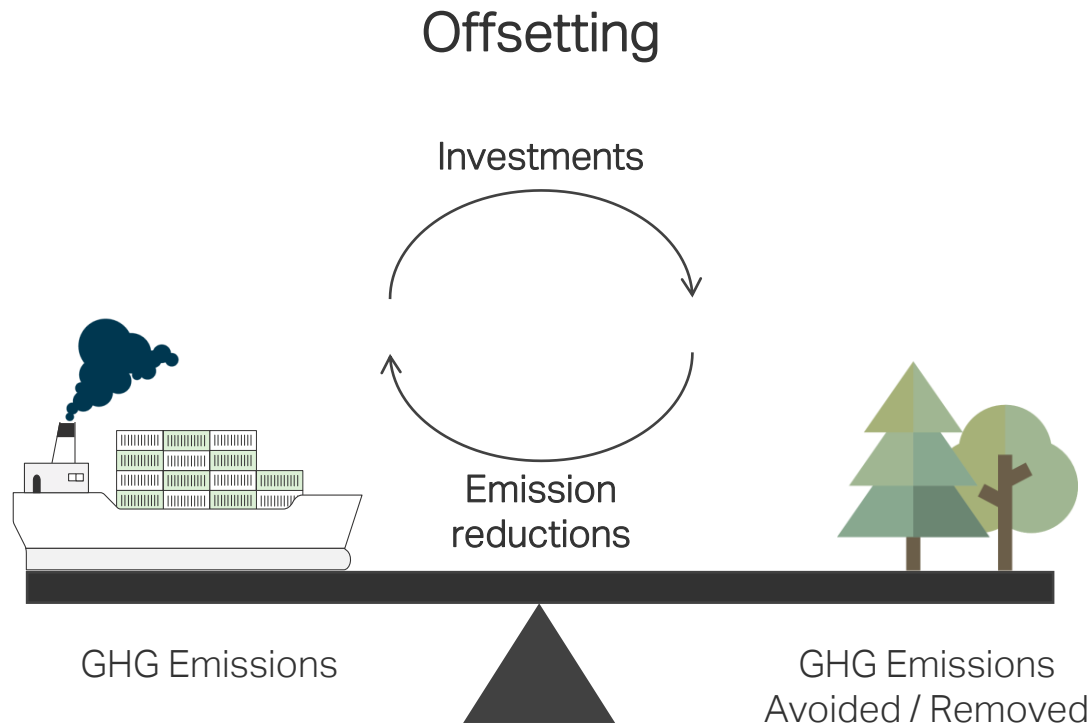
Claimed



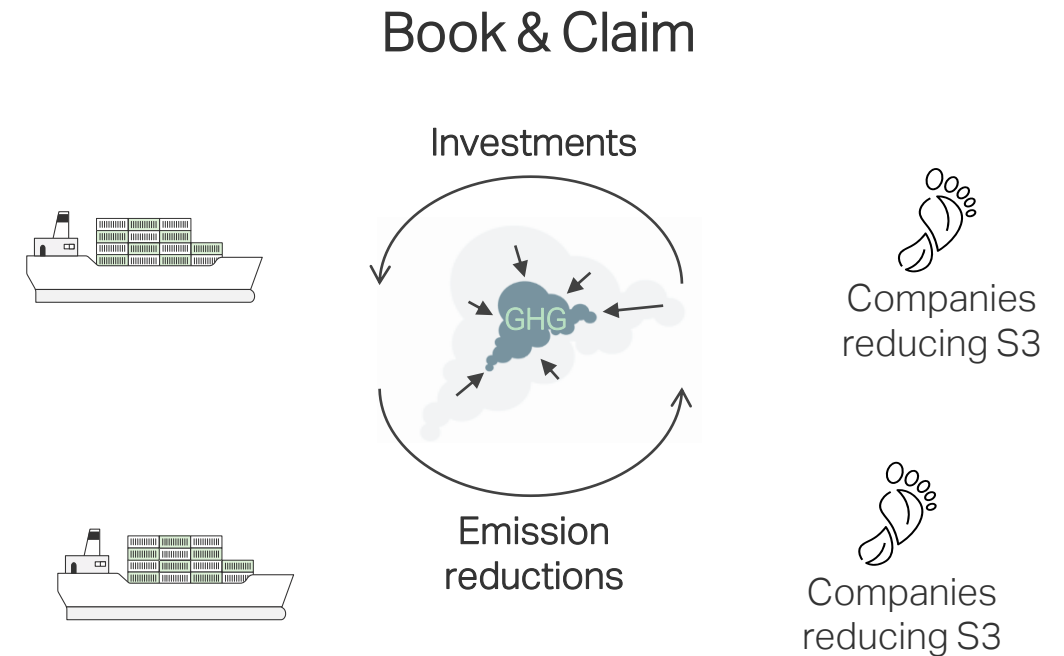
Creating a global, trusted exchange platform



Off-setting helps to compensate for emissions, while Book & Claim bridges the gap between low-emission transport services and climate front-runners' need







A short-term mechanism for hard-to-abate sector, however, it doesn't set the incentives for aligning actions with a 1.5C pathway.



Book and Claim triggers a virtuous cycle of investments in decarbonization actions, such as the use of alternative fuels, thanks to green premium from cargo owners

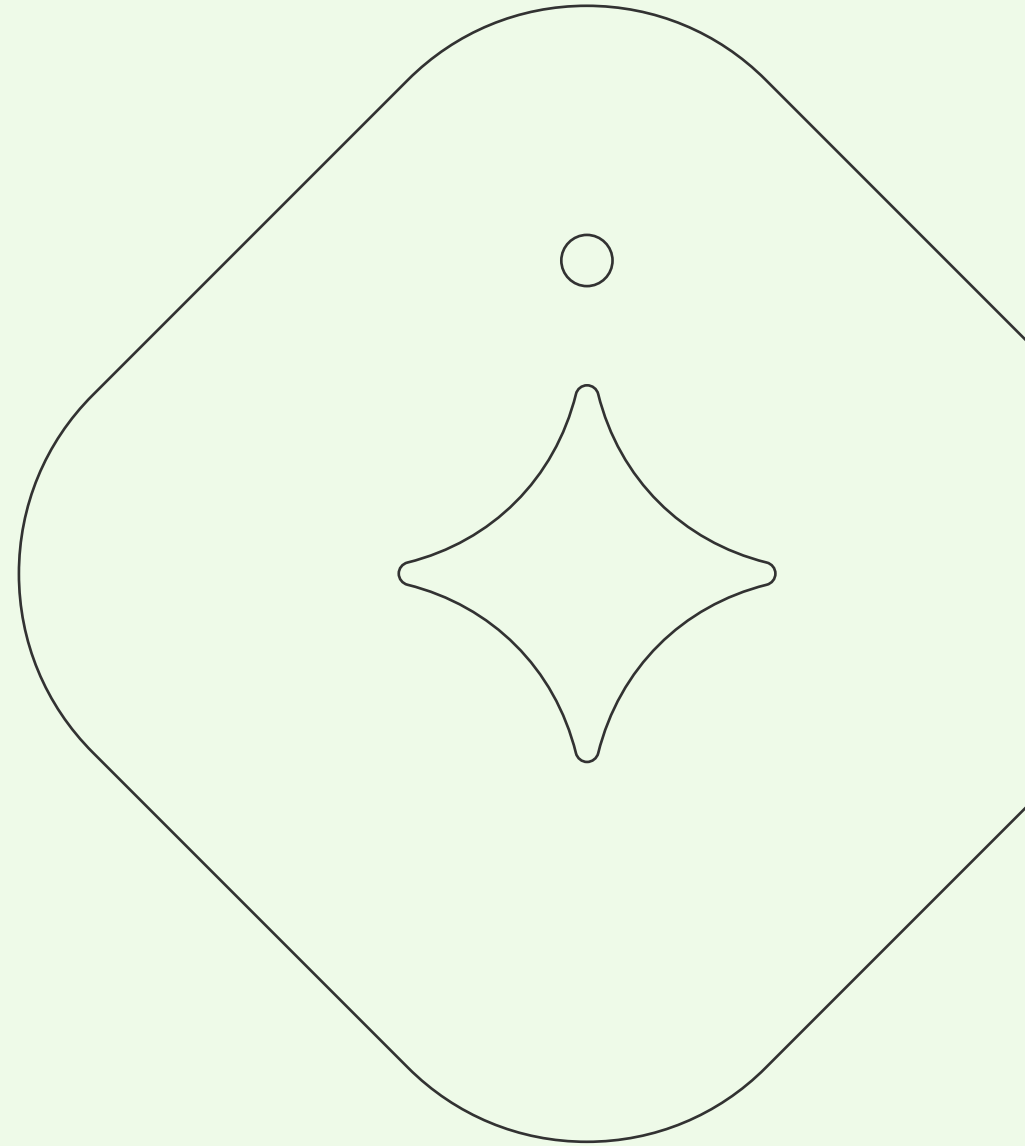


# Book and Claim support industry ambitions towards net zero by removing barriers and generating trust in emission-related claims among value chain

	Barriers and system boundaries	Book and Claim
 <p>Supply of alternative fuel</p>	<ul style="list-style-type: none"> <li>• Limitation in the availability of alternative fuels.</li> </ul>	<ul style="list-style-type: none"> <li>• Signal the demand of alternative fuel and indirectly channel investment its production</li> </ul>
 <p>Disaggregated demand</p>	<ul style="list-style-type: none"> <li>• There is a geographical mismatch between demand and supply for low-emission services.</li> </ul>	<ul style="list-style-type: none"> <li>• The registry allows end-users around the world to buy tokens representing emissions from services out of their value chain.</li> </ul>
 <p>Credibility in emission claims</p>	<ul style="list-style-type: none"> <li>• Long value chains, multiple players and regulation as well as emission accounting rules hinder the exchange of emissions.</li> </ul>	<ul style="list-style-type: none"> <li>• Measures to preserve the chain of custody such as audits, registry, and exchange rules within Book and Claim allow a global and trusted platform to exchange emissions.</li> </ul>
 <p>Cost burden</p>	<ul style="list-style-type: none"> <li>• Decarbonization of shipping has increased cost associated with investment in infrastructure, new vessels, and alternative fuel production.</li> </ul>	<ul style="list-style-type: none"> <li>• Book and Claim channel green premium to end-users willing to pay for it</li> </ul>



# Our Maritime Book & Claim System

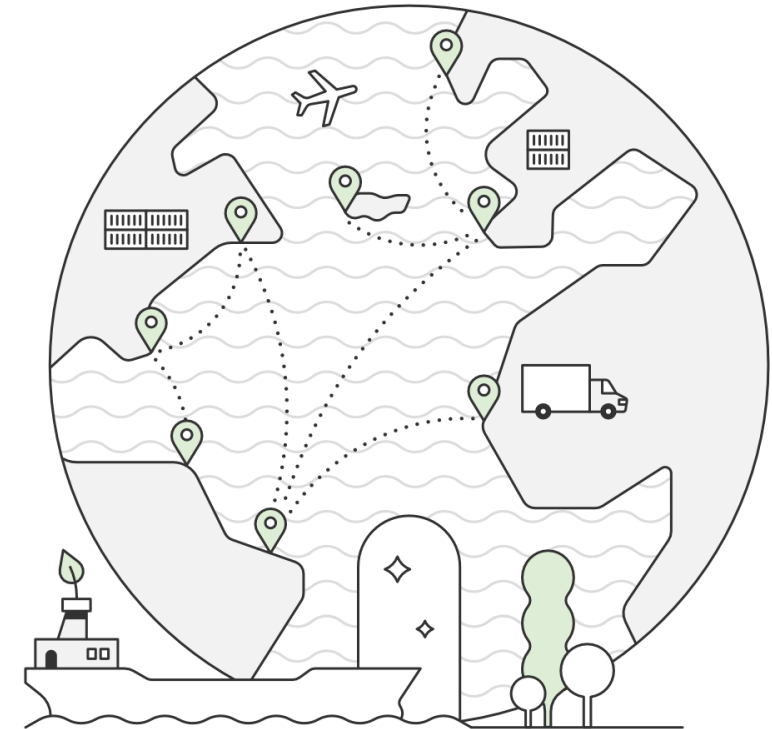




# Our vision is to become a global, trusted platform for tracking and exchanging maritime emissions

Our design aimed to create a Book & Claim that was:

- **Maritime focused** → Source of emissions and disconnect happens at a ship level
- **Highly credible** → Based on primary data with all transactions being transparent and easily auditable
- **Easy to implement** → Uses data that is largely already collected for regulatory reasons
- **Open to all fuel types** → Focused on carbon intensity of transport services, any fuel type is applicable
- **Open to all shipping segments** → Exchanging carbon intensities, any vessel type can participate



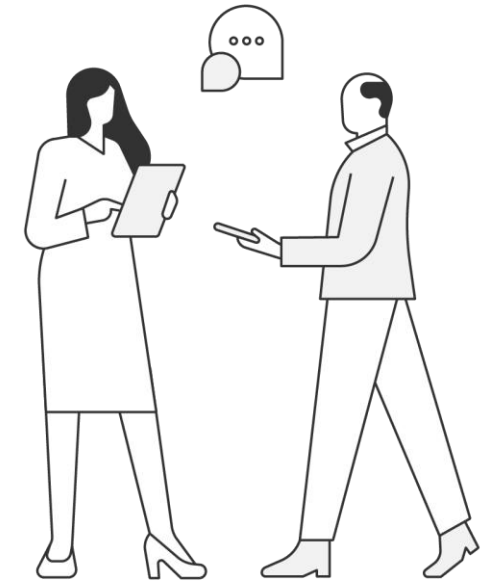
We engaged with companies at all levels of the maritime supply chain as well with other organizations working on Book & Claim

### Industry Feedback

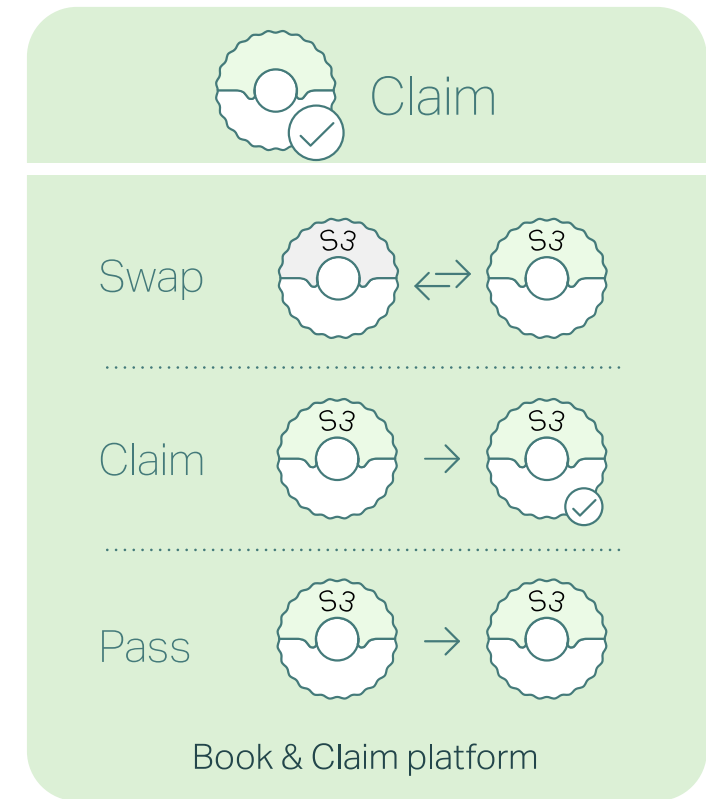
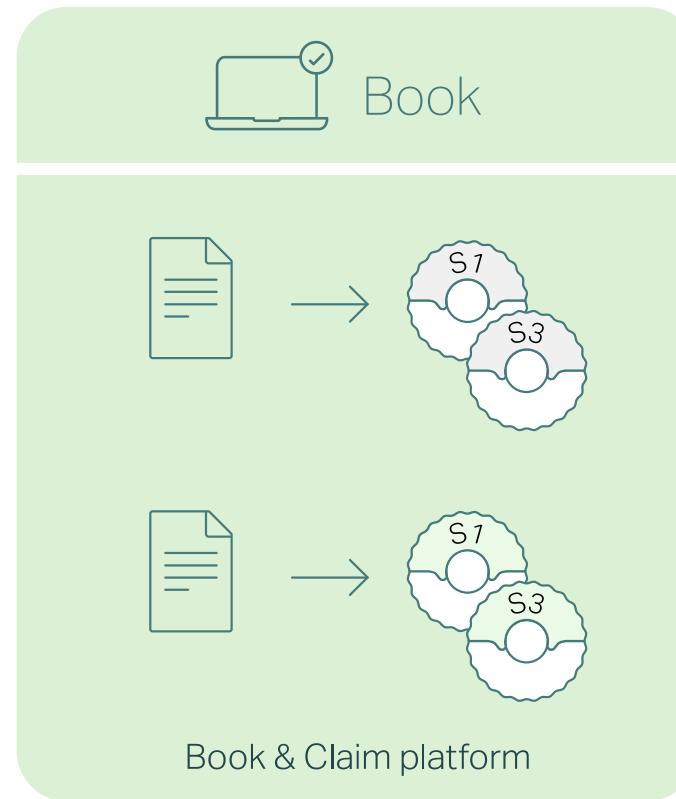
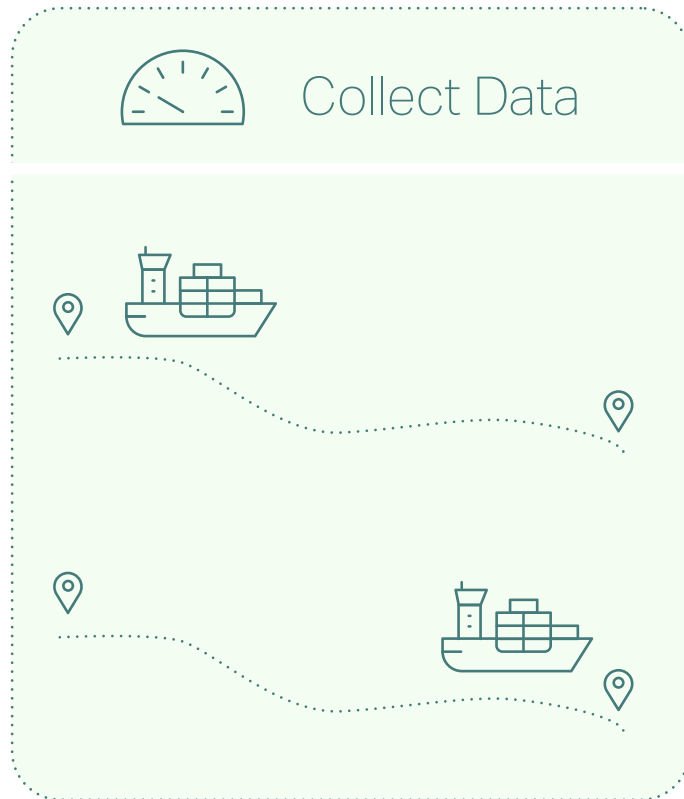
- We conducted several workshops and received feedback from 15+ companies on our first draft report
- We have met with 40+ companies to discuss our work

### Community Engagement

- Several organizations are also working on Book & Claim
- Throughout our project we have been in contact with this community and this engagement will continue



# What does the system we designed look like?



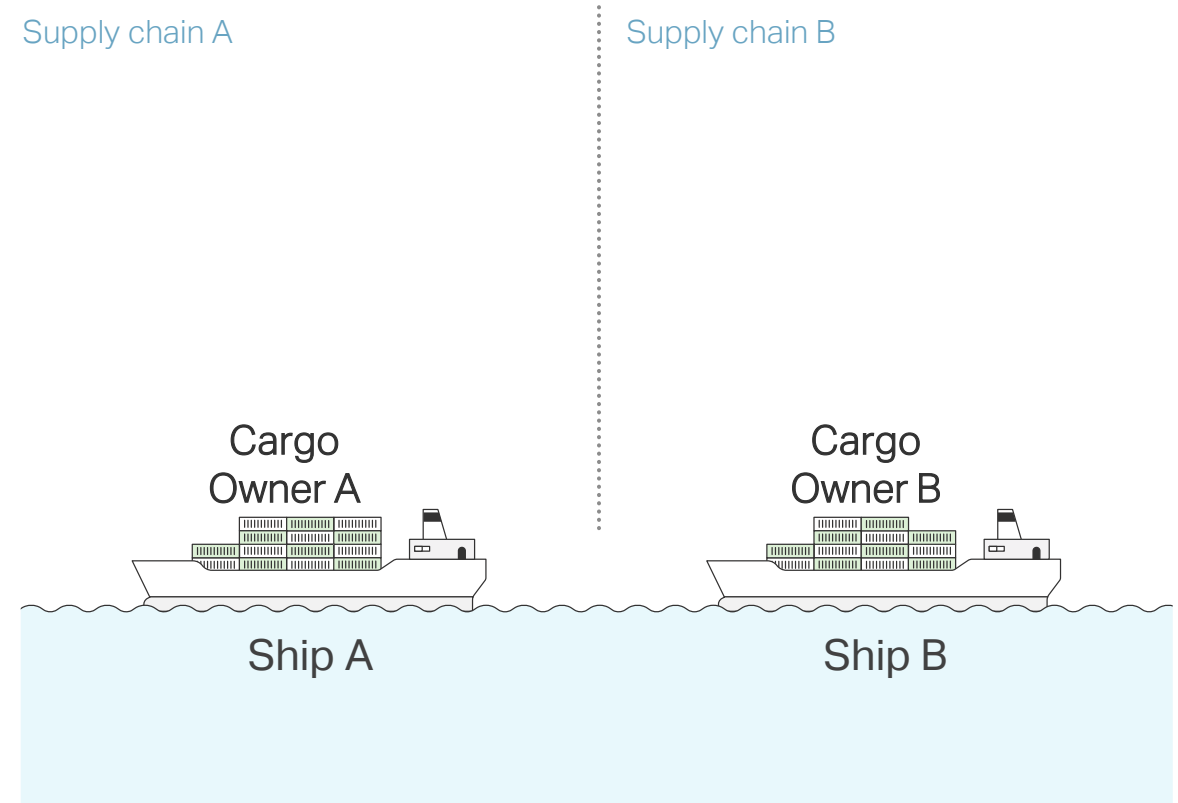
# Gathering Data

Ships A & B sail on voyages and measure key information, including:

Type and amount of fuel used

Distance travelled

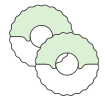
Cargo carried



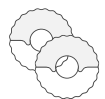


# Booking

Ships A & B upload their data to the B&C platform and receive tokens reflecting the carbon intensity of fuel they consumed.

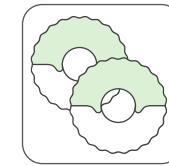


Ship A used alternative fuel

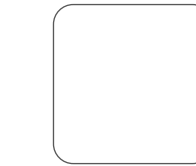


Ship B used conventional fuel

Supply chain A

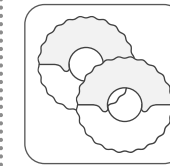


Ship A

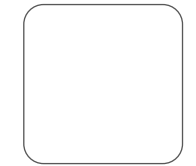


Cargo owner A

Supply chain B



Ship B



Cargo owner B

Cargo  
Owner A



Ship A

Cargo  
Owner B



Ship B

☐ Account for tokens to be claimed

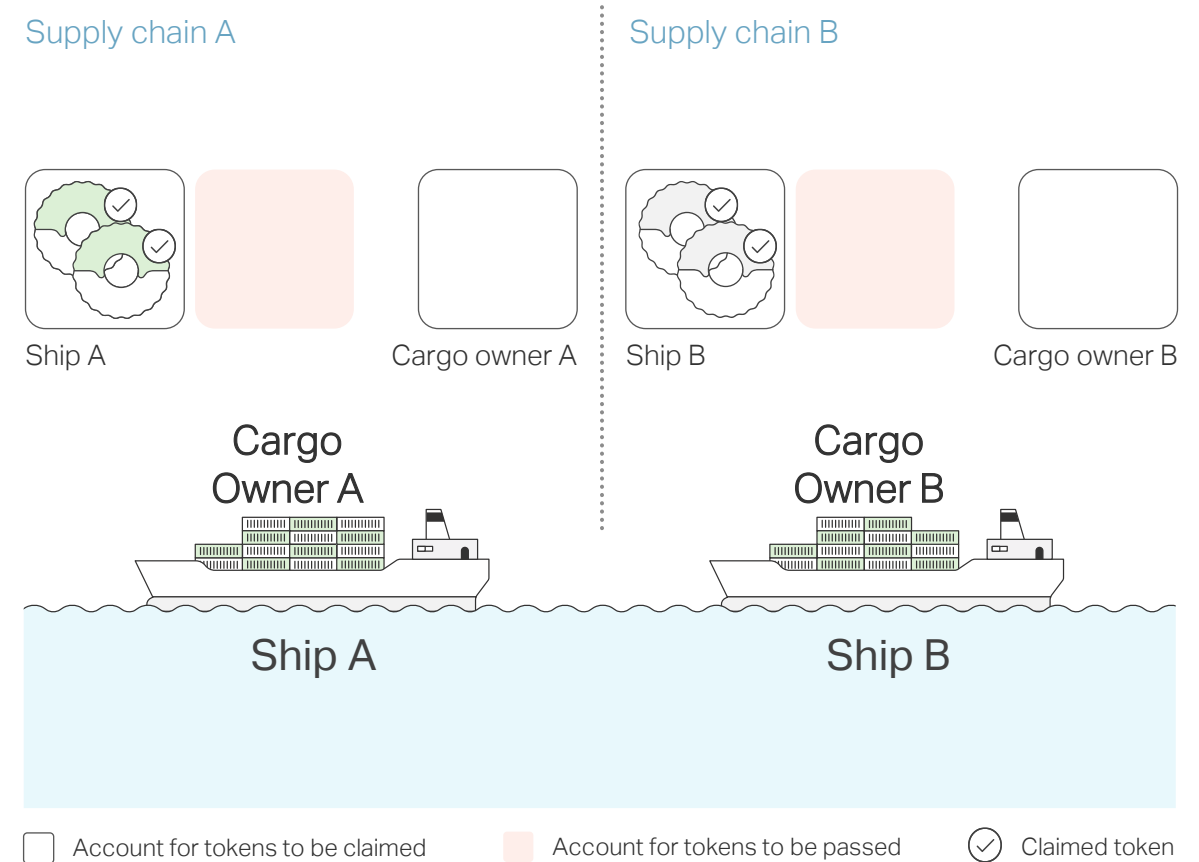
☐ Account for tokens to be passed

☒ Claimed token



# Claiming

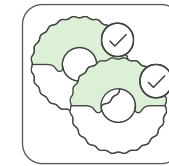
Both ships are satisfied with the tokens they received and claim them



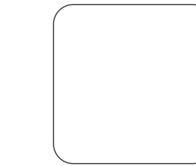
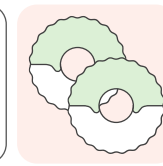
# Passing

Identical tokens are made to pass down the supply chain.

Supply chain A

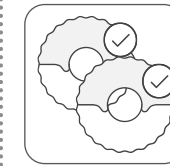


Ship A

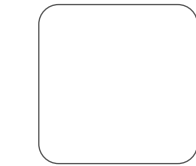
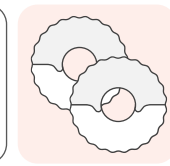


Cargo owner A

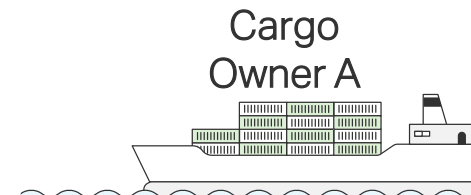
Supply chain B



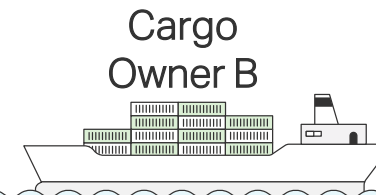
Ship B



Cargo owner B



Ship A



Ship B

☐ Account for tokens to be claimed

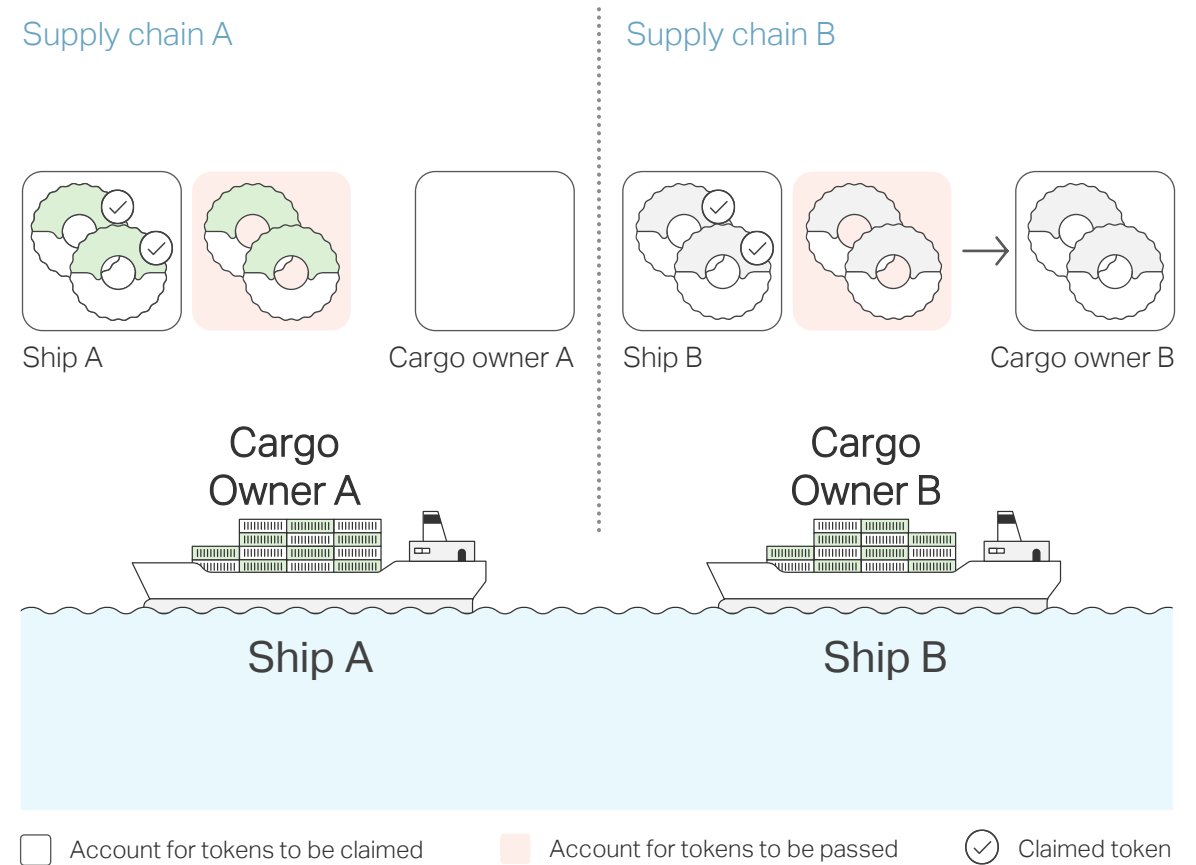
☐ Account for tokens to be passed

☒ Claimed token



# Passing

Ship B passes conventional fuel tokens to Cargo owner B

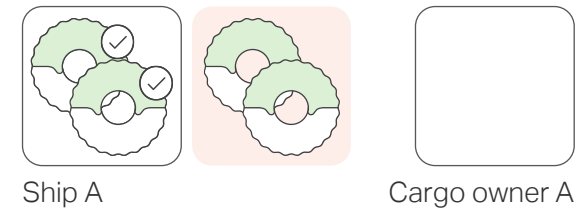




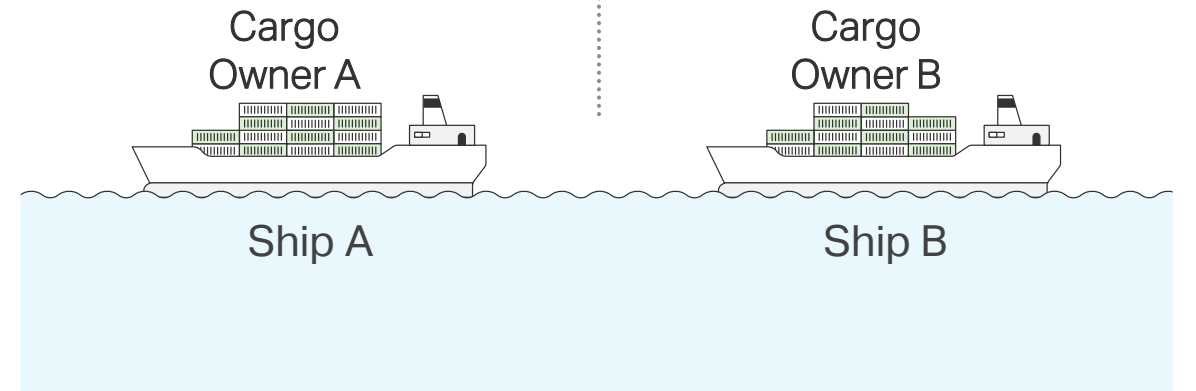
# Passing

Ship A does not pass its alternative fuel tokens to Cargo Owner A, as they won't pay a premium for green transport.

Supply chain A



Supply chain B



☐ Account for tokens to be claimed    ☐ Account for tokens to be passed    ☒ Claimed token

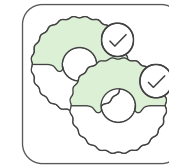


# Swapping

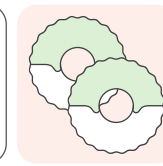
Ship A looks for a cargo owner who will pay a premium for green transport.

Cargo owner B is willing to pay a premium for green transport, but received conventional fuel tokens from ship B.

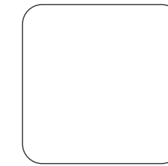
Supply chain A



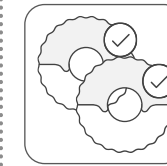
Ship A



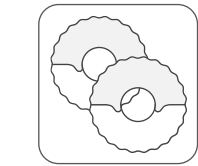
Cargo owner A



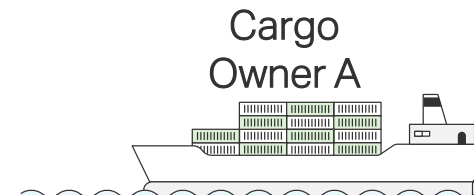
Supply chain B



Ship B

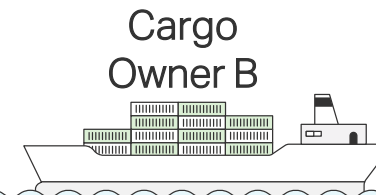


Cargo owner B



Cargo Owner A

Ship A



Cargo Owner B

Ship B

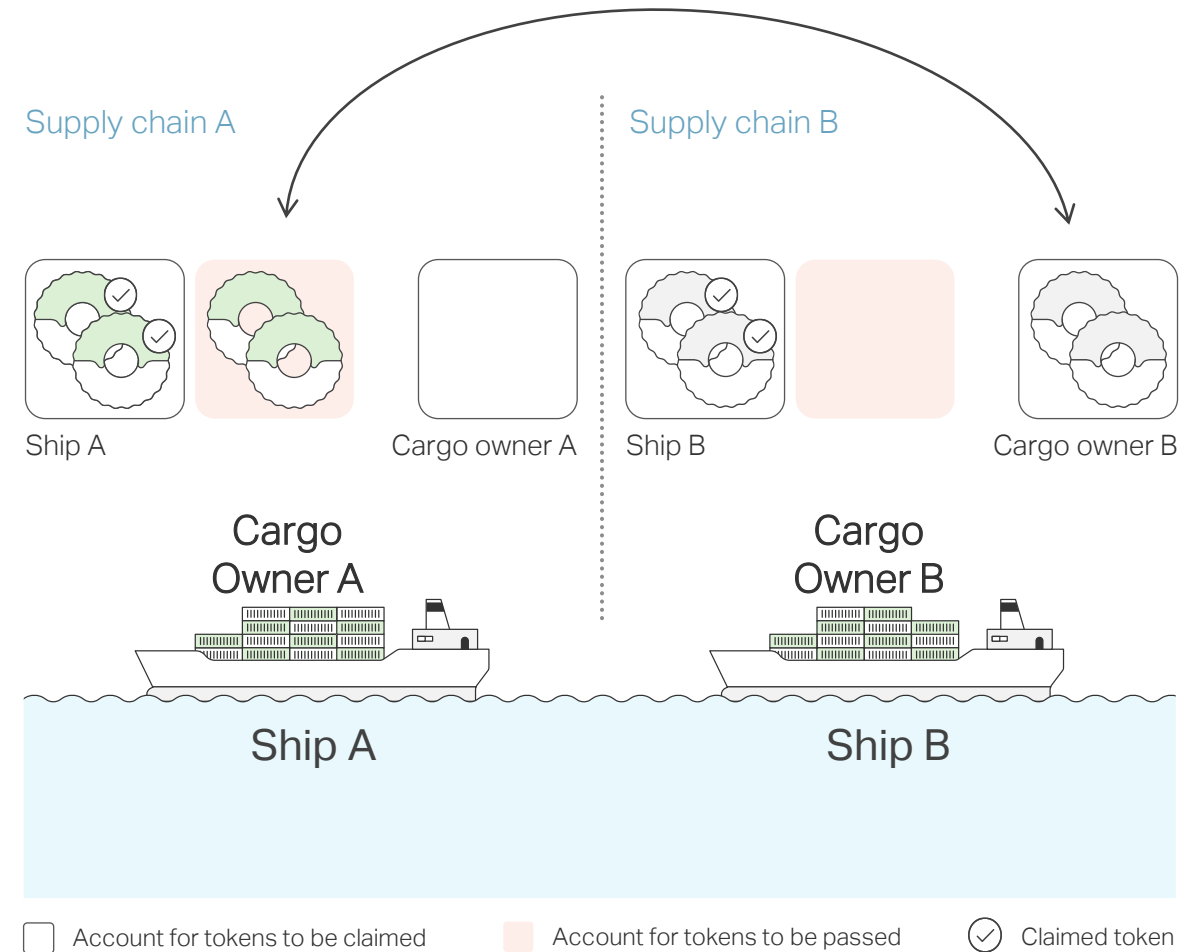
☐ Account for tokens to be claimed

☐ Account for tokens to be passed

☒ Claimed token

# Swapping

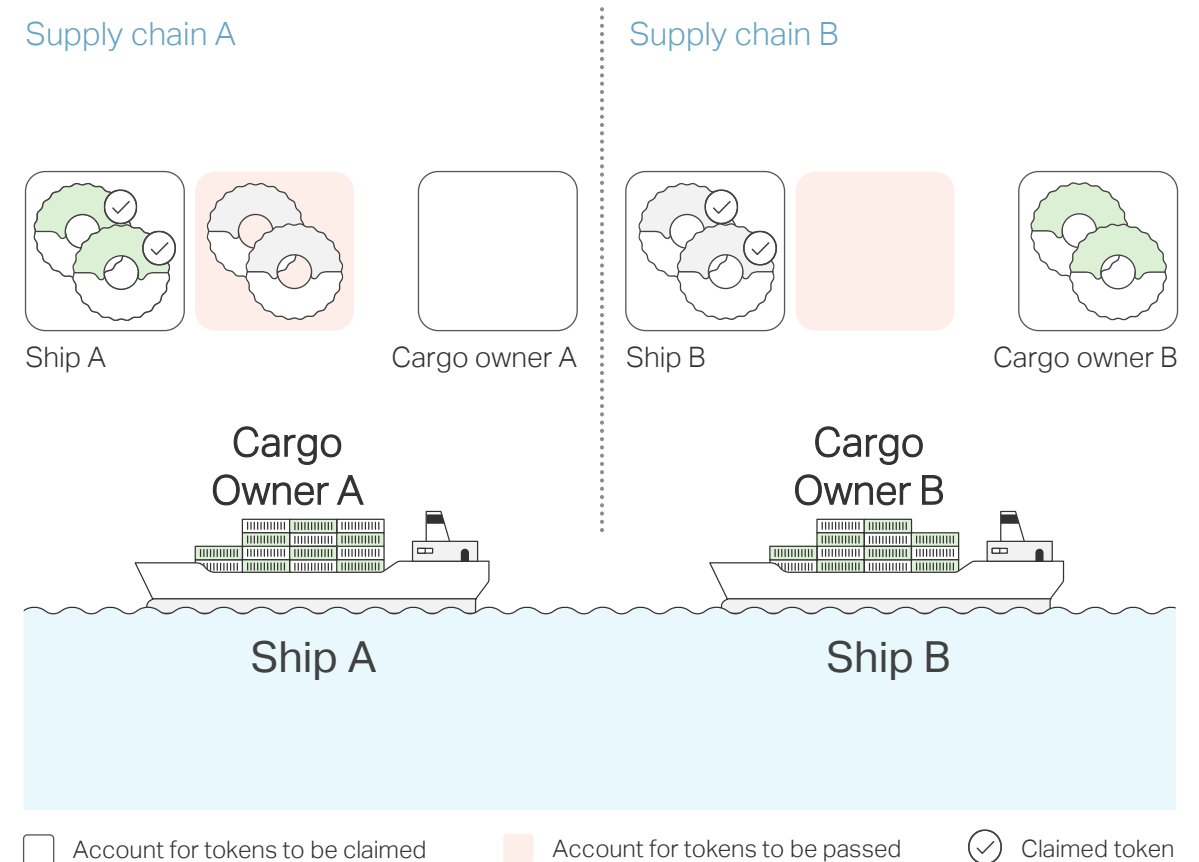
Ship A and Cargo owner B agree to swap tokens



# Swapping

Ship A receives conventional fuel tokens after swapping

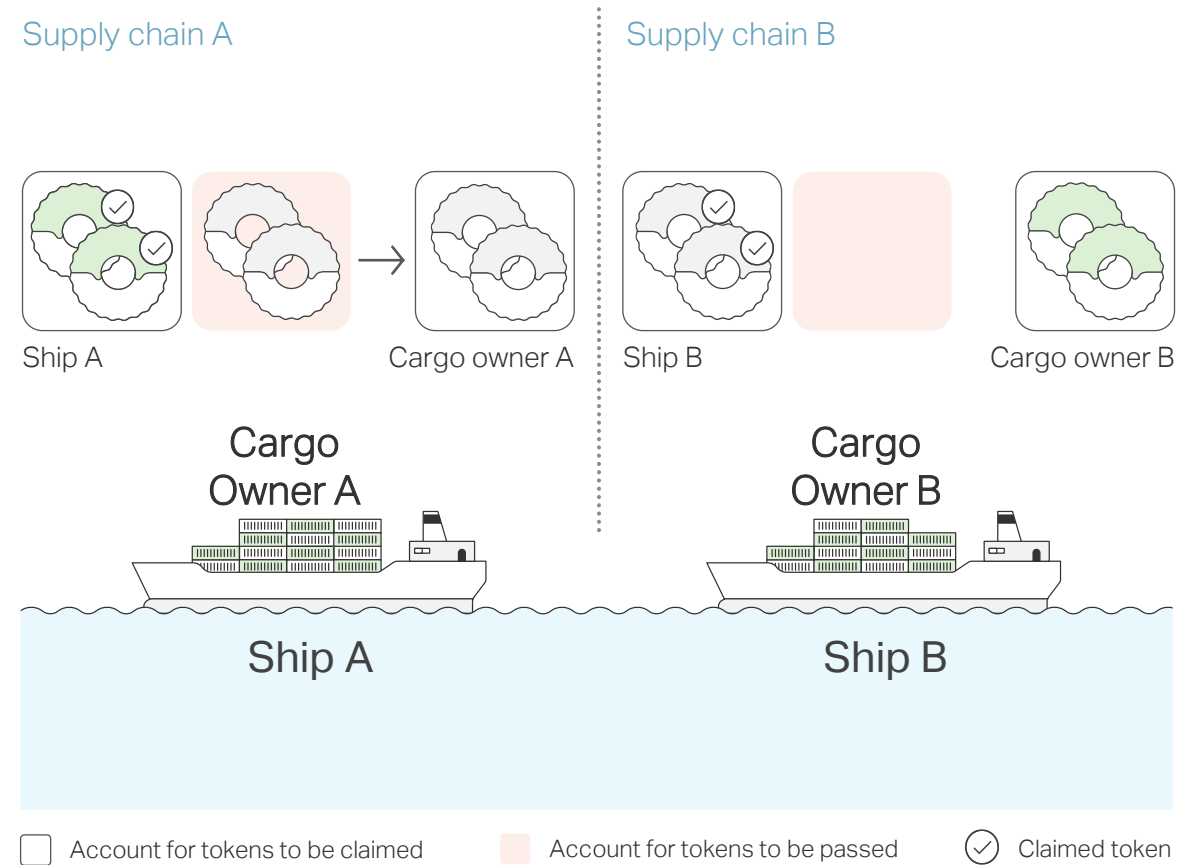
Cargo owner B receives alternative fuel tokens after swapping





# Passing

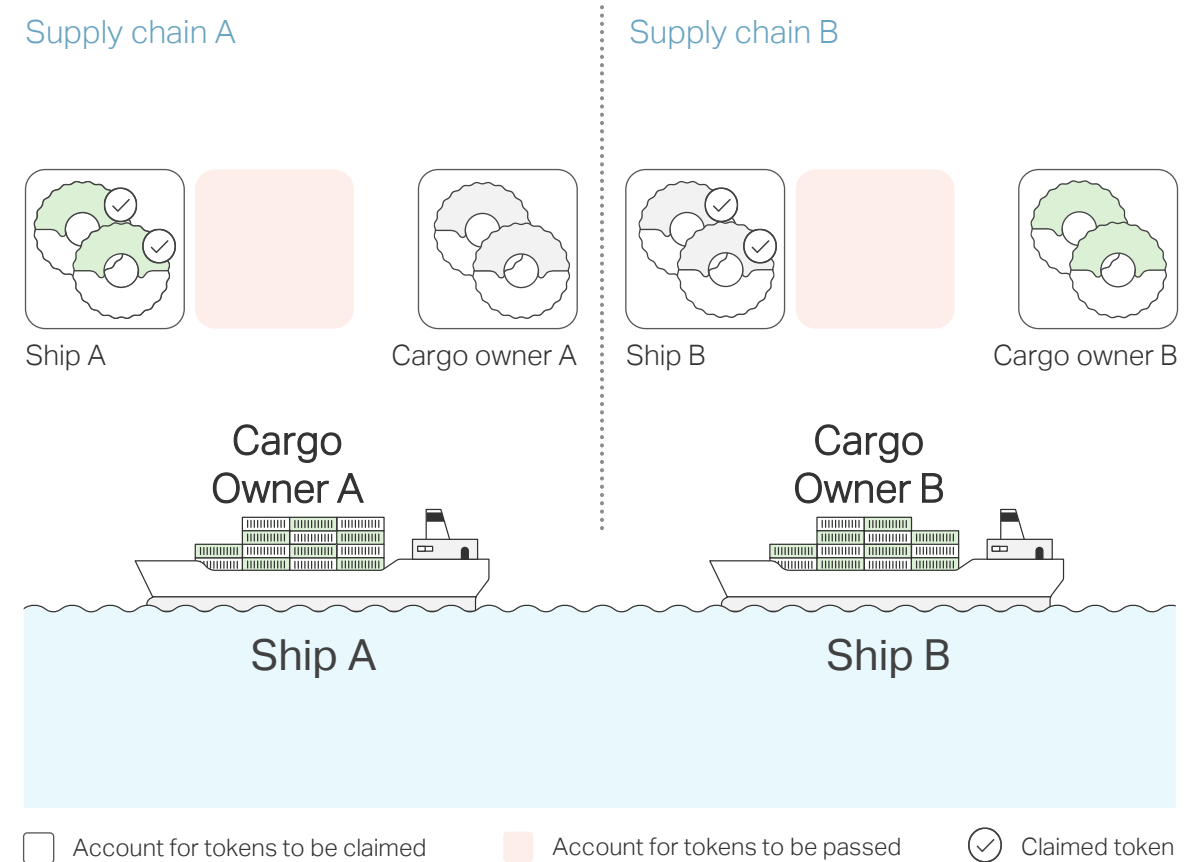
Ship A passes conventional fuel tokens to cargo owner A



# Passing

Cargo owner A has conventional fuel tokens

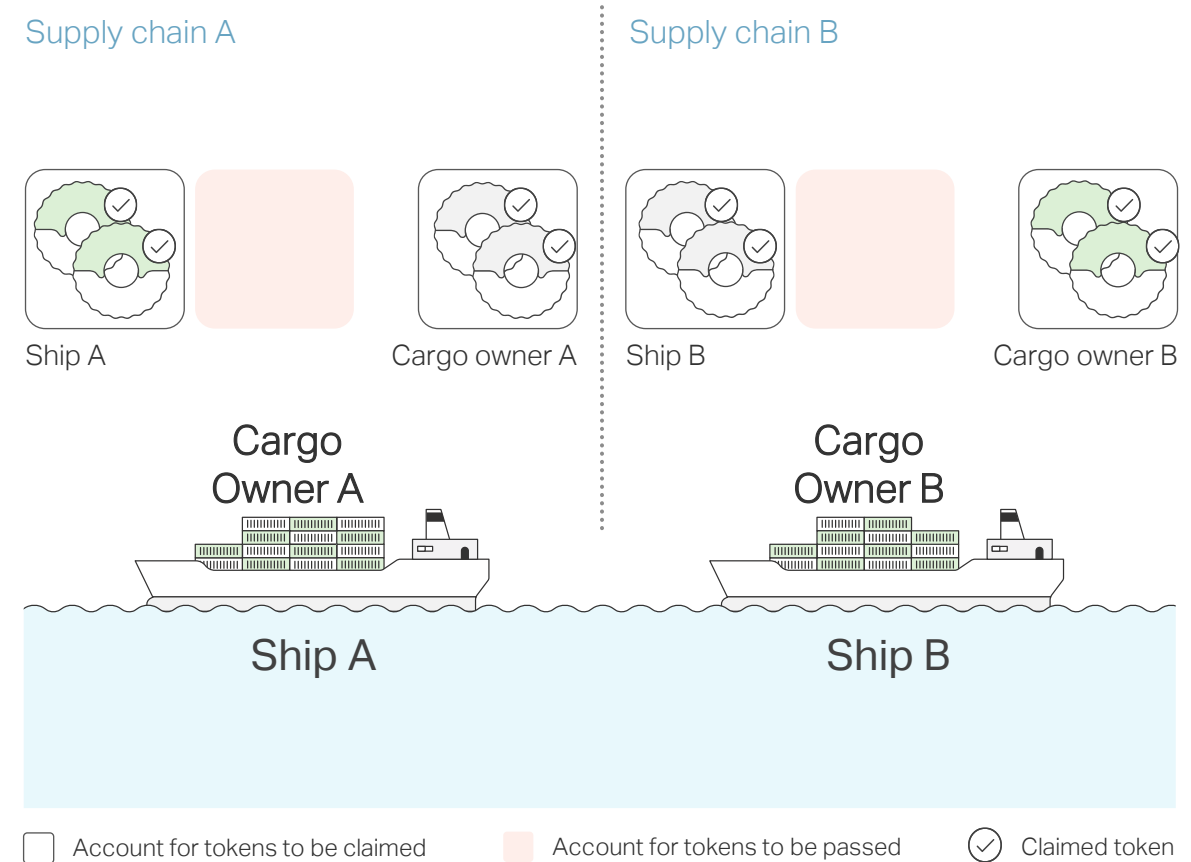
Cargo owner B has alternative fuel tokens



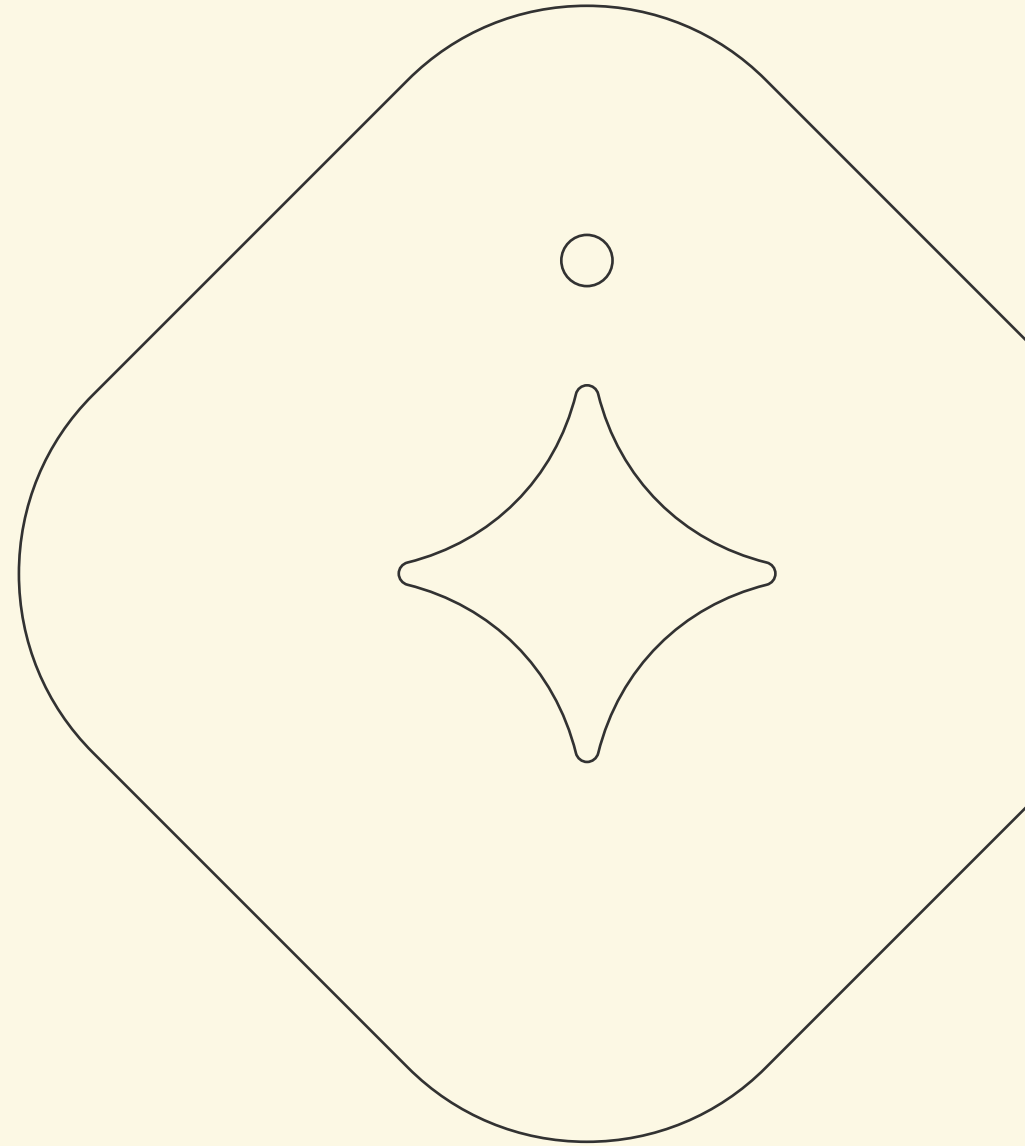
# All Tokens Claimed

Cargo owner A claims conventional fuel tokens

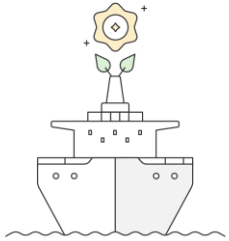
Cargo owner B claims alternative fuel tokens



# Benefits of our Book & Claim

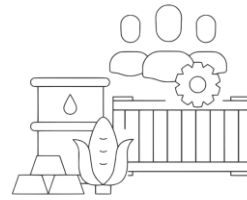


# Why participate in the Maritime Book & Claim system?



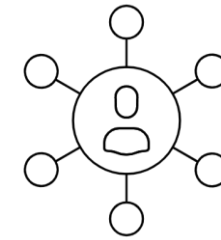
## Shipowner / Ship operators

- **Serve customers** with decarbonization needs with credible methodologies
- Access to **a larger customer base** with decarbonization needs
- **Share the costs** down the value chain
- Strengthen the **business case** for investment into decarbonization



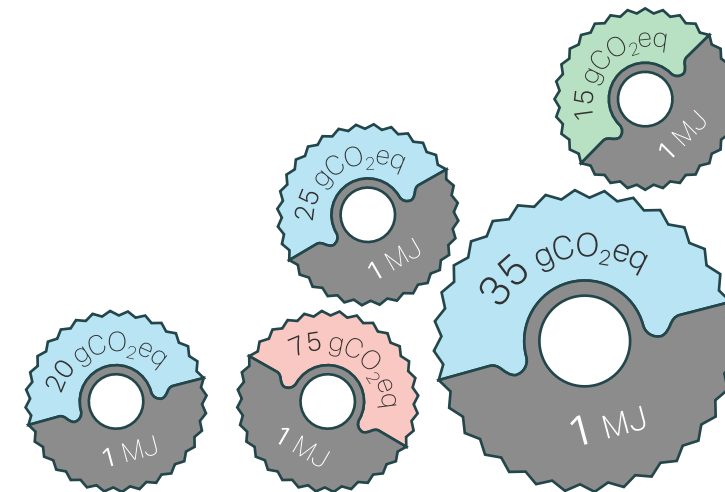
## Cargo owners

- Gain **visibility** in the maritime transport activities and emissions
- Access to **a larger pool of low-emission maritime transport services**
- Credibly **reduce maritime transport emissions**



## Freight forwarders

- **Serve customers** with decarbonization needs



# One System – Many Opportunities

Book Claim Pass Swap

## Book green and claim green

### Shipowner & Operator:

- Sail on green fuel and get emissions verified

### Potential combination with in-house activities

- Mass balance within the fleet
- Insetting projects

Book Claim Pass Swap

## Book green / black and pass

### Shipowner & Operator:

- Sail on green fuel, get emissions verified, pass verified emissions to customers for payment
- Sail on black fuel, get emissions verified, pass verified emissions to customers

### Freight Forwarder & Cargo owner

- Receive verified transport and emission data (increased transparency)

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### Freight Forwarder & Cargo owner

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- Transactions are handled by platform, minimizing administrative burden in-house

Book Claim Pass Swap

## Shop green and claim green

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- Receive a standardized format to request transport and emission data
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Book – Claim – Pass – Swap

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- Sail on green fuel, get emissions verified, and either 1) pass verified emissions to your customers for payment or 2) swap with other customers for payment
- Sail on black fuel, get emissions verified, and either 1) pass verified emissions to your customers or 2) swap for green emissions on customers behalf

### Freight Forwarder & Cargo owner

- Receive verified transport and emission data (increased transparency)
- Access to a consolidated supply of low-emission shipping services

### Potential combination with in-house activities

- Transactions are handled by platform, minimizing administrative burden in-house

Book – Claim – Pass – Swap

## Shop green and claim green

### Freight Forwarder & Cargo owner

- Receive a standardized format to request transport and emission data
- Get the data received verified (increased transparency)
- Access to a consolidated supply of low-emission shipping services



# One System – Many Opportunities

Book – Claim – Pass – Swap

Book – Claim – Pass – Swap

Book – Claim – Pass – Swap

Book Claim Pass Swap

## Book green and claim green

### Shipowner & Operator:

- Sail on green fuel and get emissions verified

### Potential combination with in-house activities

- Mass balance within the fleet
- Insetting projects

## Book green / black and pass

### Shipowner & Operator:

- Sail on green fuel, get emissions verified, pass verified emissions to customers for payment
- Sail on black fuel, get emissions verified, pass verified emissions to customers

### Freight Forwarder & Cargo owner

- Receive verified transport and emission data (increased transparency)

### Potential combination with in-house activities

- Mass balance within the fleet
- Insetting projects

## Book green / black, exchange, and pass

### Shipowner & Operator:

- Sail on green fuel, get emissions verified, and either 1) pass verified emissions to your customers for payment or 2) swap with other customers for payment
- Sail on black fuel, get emissions verified, and either 1) pass verified emissions to your customers or 2) swap for green emissions on customers behalf

### Freight Forwarder & Cargo owner

- Receive verified transport and emission data (increased transparency)
- Access to a consolidated supply of low-emission shipping services

### Potential combination with in-house activities

- Transactions are handled by platform, minimizing administrative burden in-house

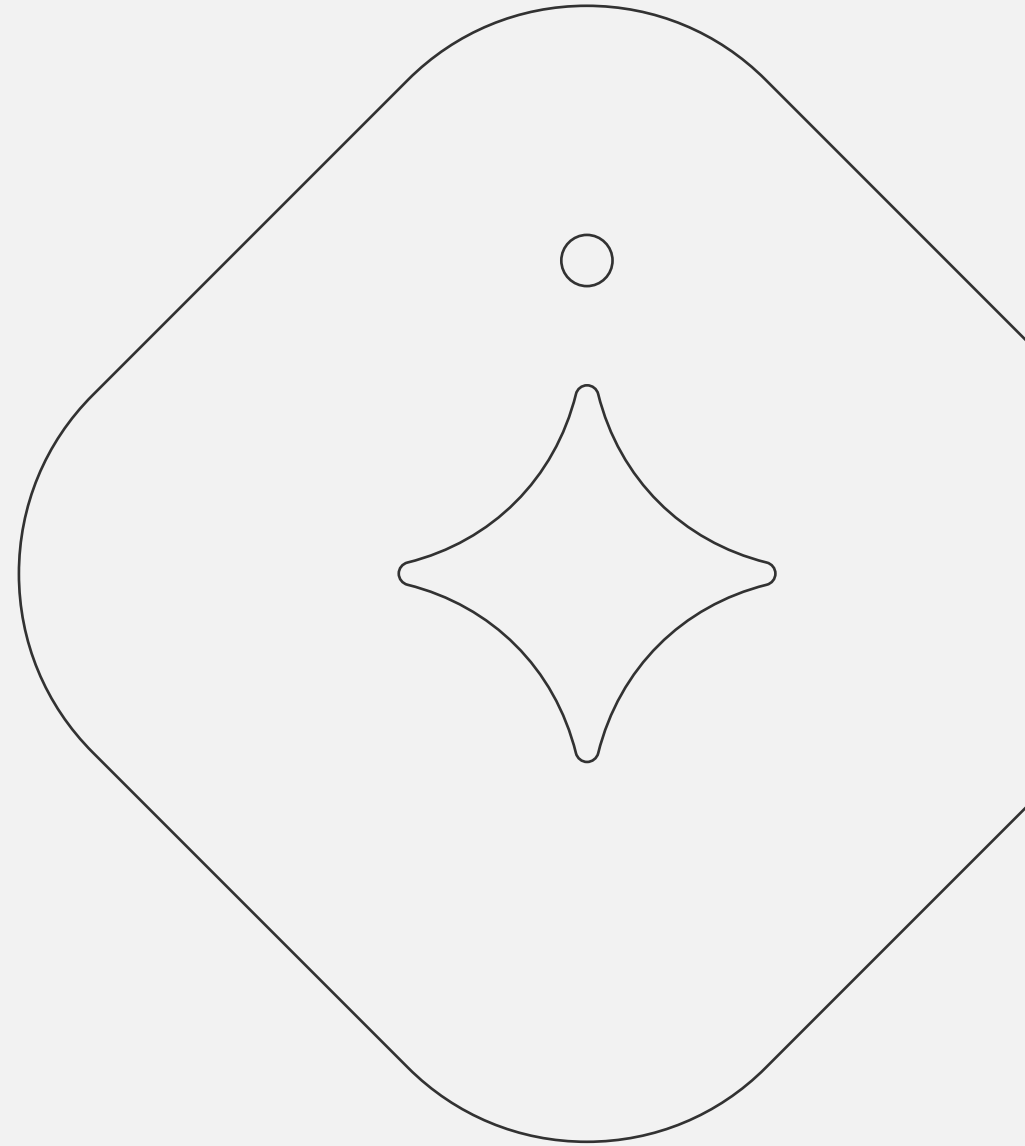
## Shop green and claim green

### Freight Forwarder & Cargo owner

- Receive a standardized format to request transport and emission data
- Get the data received verified (increased transparency)
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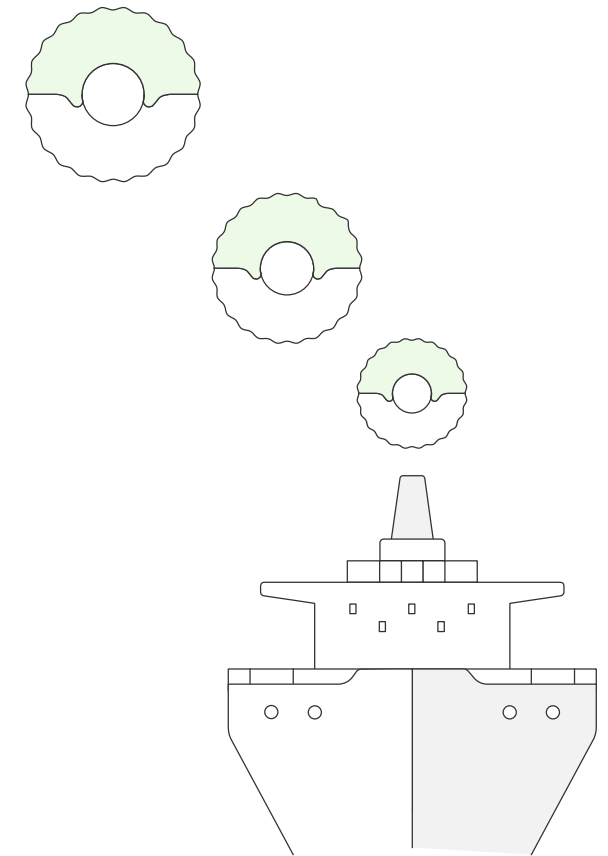


Next steps – a brief intro to  
the pilot



This project is now complete, but our work on Maritime Book & Claim is just beginning...

- The Center and RMI have kicked off a new project to prepare for the pilot of this system
- This project will focus on building the foundation needed for a successful pilot of the system we have designed
- Over the coming months we will
  - Gather pilot participants
  - Continue refining our methodology alongside participants
  - Prepare the necessary tools to operationalize our system



# We will pilot this system by the end of the year

- This next project will run over the next several months with pilot start expected end this year
- This pilot will be a complete test of our system design and functionality
- When can you expect to hear more from us? Soon!
- We are finalizing the scoping for this next phase and will soon begin screening for participants

## Reach out for more information!!





Join at  
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# Thank you for joining!

The recording & presentation will be shared with all participants shortly.

Let's stay in touch

Visit our website [www.zerocarbonshipping.com](http://www.zerocarbonshipping.com) and make sure to follow us on LinkedIn to stay up to date with the latest news and events.

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