

Navigating toward a clearer horizon

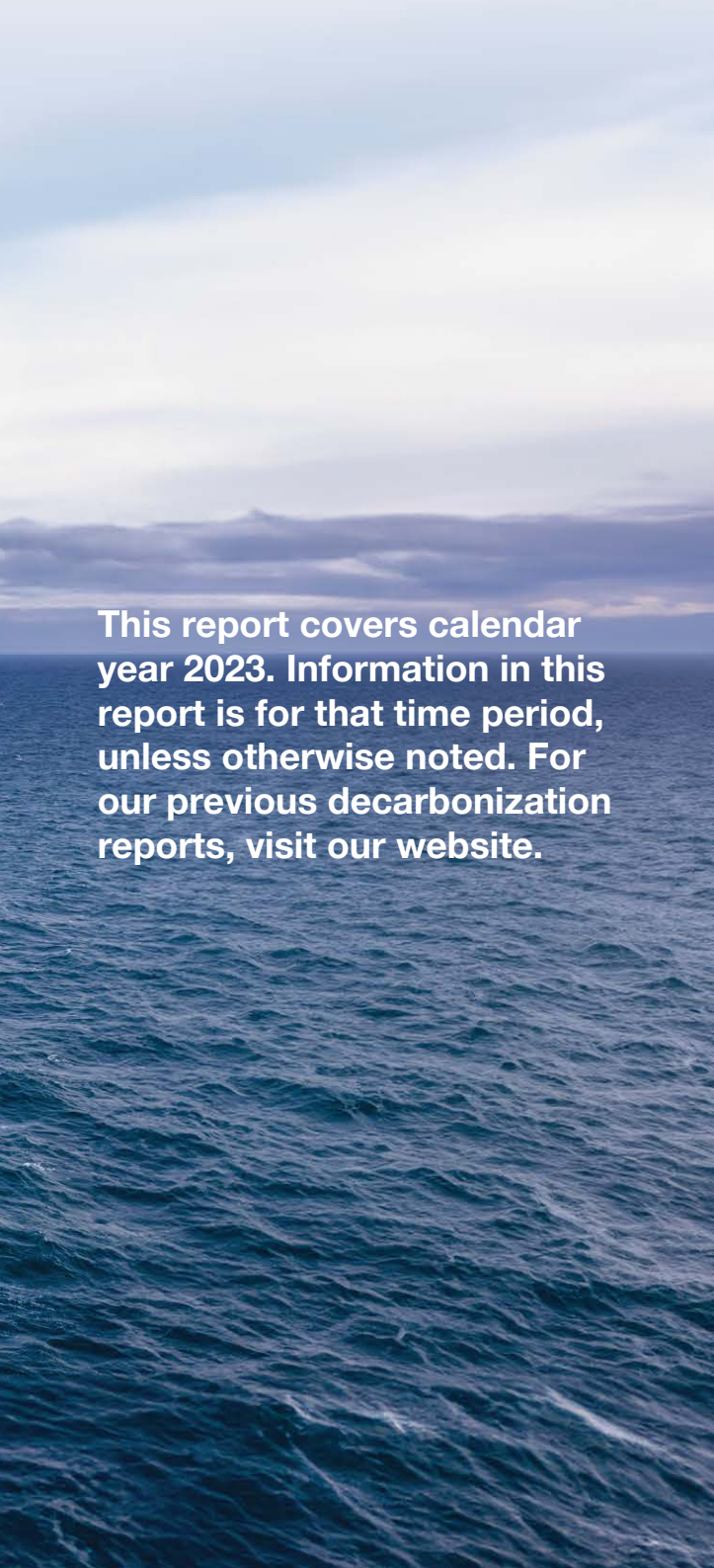
How Cargill is working to
decarbonize bulk shipping

Published June 2024



Cargill Ocean Transportation
More than shipping





This report covers calendar year 2023. Information in this report is for that time period, unless otherwise noted. For our previous decarbonization reports, visit our website.

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Certification statement from DNV

Throughout this report, ton is considered equal to metric ton, unless otherwise stated.

An inflection point for ocean shipping

It's been an exciting year for our industry. We saw bold experiments hit the water offering new avenues to decarbonize how we move the world's goods to where they are needed. I have a strong conviction that we are on the right path and that consensus is building for the entire sector to accelerate forward. Cargill Ocean Transportation is taking bold action to lead that transformation. We trialed new technologies and scaled biofuels while working closely with customers and other partners to pioneer broader ways forward. During 2023, we saw steady improvement in the Ship Energy Efficiency Operational Indicator (EEOI – see explanation on page 6) from our fleet, reaching 8.9% below our 2017 baseline, which equates to more than 1 million metric tons less of CO₂ emissions on an efficiency basis during 2023 according to our estimates.

Certainly, there are still challenges in front of us. Complexity in the market due to geopolitical and logistical disruptions can reroute ships, extend voyages and make the fleet less efficient, as well. Economic conditions also play a big role and can change quickly. Our year-on-year emissions reduction for 2023 was largely driven by market conditions that facilitated slower speeds and the use of less fuel.

And even with our improvement over the past few years, Cargill Ocean Transportation remains 17.5% above the minimum trajectory for the Sea Cargo Charter (SCC) based on this year's revised methodology, which will only get more stringent as we need to keep driving steady improvements in the years ahead. This illustrates the immense task facing our industry if we want to truly decarbonize.

The good news is that we now have clear guidance from the International Maritime Organization (IMO) about how we can all get there. In 2023, the IMO aligned on a [detailed strategy](#) for how the industry can reach net-zero GHG emissions by 2050. It calls for developing a basket of solutions over the next few years and then getting ready for a rapid scale-up in the 2030s (see more on page 8). These clear milestones provide a framework for all of us to take today's niche experiments and translate them into tomorrow's mainstream way of doing business.

In some cases, we will be able to more rapidly decarbonize with our customers ahead of the IMO timeframe. This report contains information

More than
1 million
metric tons of CO₂

Estimated emissions avoided in 2023 on an efficiency basis compared to our 2017 baseline

about the propulsion systems, biofuels, digital technologies, ship designs and more that will equip us to do that.

One important factor in being able to scale on time is the economics of the solutions in question. We need market mechanisms that will incentivize steady decarbonization without disrupting the operational efficiency of our industry and the trade flows the world needs. We cannot decarbonize voyage by voyage. And so, we have increasingly been talking with our customers, their customers and other stakeholders about a rigorous, science-based chain-of-custody system that would make decarbonization economically viable (see more on page 17).

Even with the significant challenges in front of us, I feel a common sense of purpose in the conversations I have with our customers and partners. Yes, we have a long way to go. But we can see the horizon and how to get there. Now, we need to unite around this common purpose and move forward.



Jan Dieleman
President
Cargill Ocean Transportation

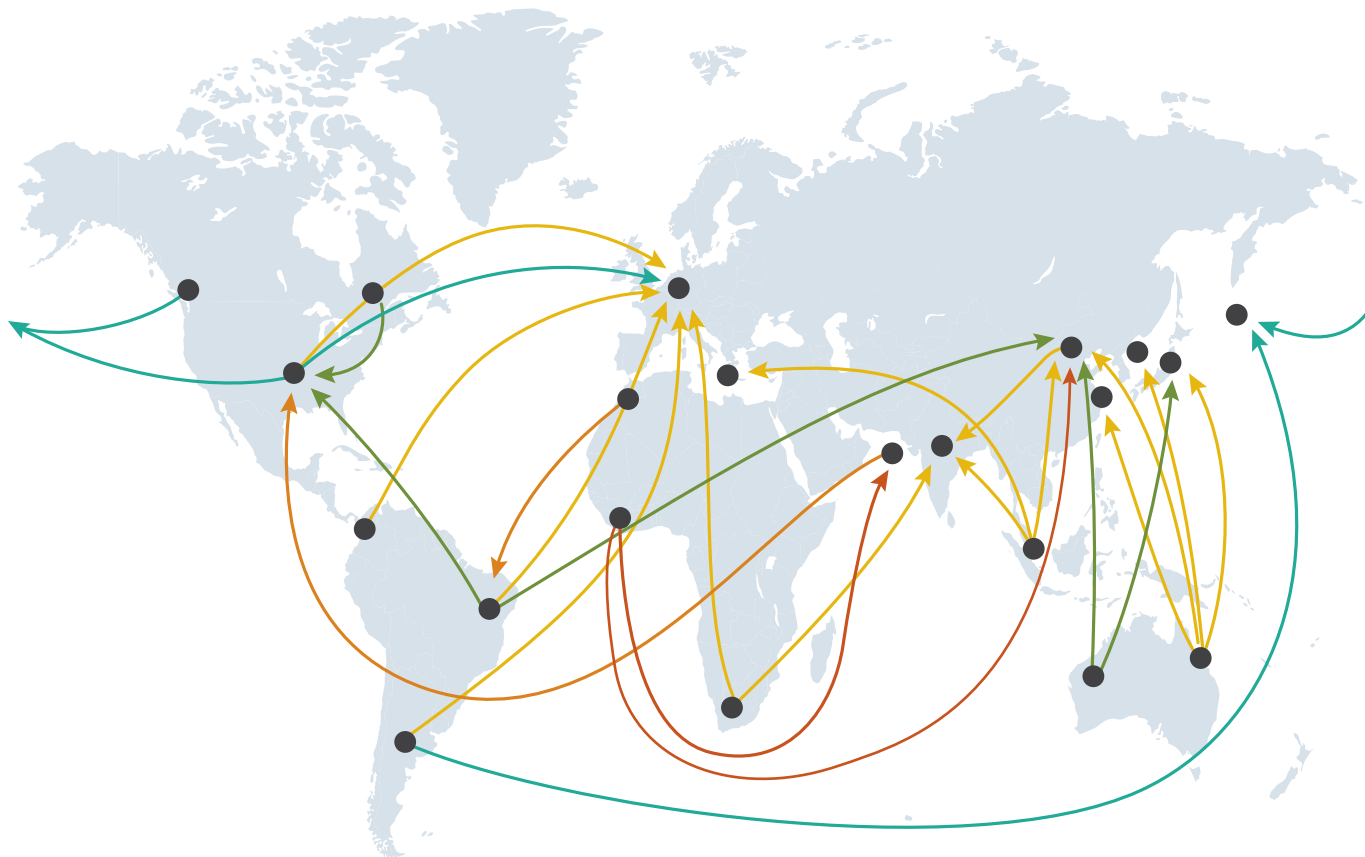


About Cargill Ocean Transportation

We are a leading freight-trading organization that charters about **700 vessels worldwide** at any one time. **Founded in 1956 in Geneva**, we benefit from the rich heritage and expert capabilities of Cargill's global operations in food, agriculture and commodities trading.

Our customers, including Cargill's own internal businesses, are at the center of everything we do. We provide services that combine the latest digital technology and green solutions, with thought leadership on the issues that matter, to help make shipping safe, responsible, and sustainable.

Our global network



2023 snapshot



2,019
different ships operated



4,222
voyages



217
million metric tons of
cargo carried

Our major 2023 trade flows



Grains
63M mt/yr



Iron ore
52M mt/yr



Coal
31M mt/yr



Fertilizer
14M mt/yr



Bauxite
9M mt/yr

Our progress in 2023

This year, the IMO updated its strategy for transitioning ocean shipping to net-zero greenhouse gas emissions (GHG) by 2050. This marks a significant turning point for the maritime industry (see more on page 8). In line with this update, the SCC benchmark was revised to match the IMO trajectory, measuring progress along the way against a 2008 baseline. We have updated our 2023 results and prior-year numbers to match this new trajectory and also to adjust our fuel lifecycle calculations from tank-to-wake to well-to-wake, which is in line with new SCC guidance.

These adjustments notwithstanding, we saw some good improvement in our overall results compared to the previous year, improving our Ship Energy Efficiency

Operational Indicator (EEOI – see explanation on next page) by 5.5%. Much of this was due to market conditions that facilitated our fleet sailing at lower speeds, which improved our vessels' fuel use and carbon intensity. Our work to improve our ships' efficiency with a mix of energy-saving devices, biofuels and route optimization also contributed.

In addition to our external targets, we aim to help meet [Cargill's companywide](#) target of reducing Scope 3 emissions 30% per ton of product sold by 2030 against a 2017 baseline. In 2023, we were 5% below our corresponding EEOI baseline to help meet this target.

We are encouraged by this progress, and yet we remain above the trajectories we need to be on to meet the long-term targets of the SCC and IMO, as well as Cargill's own target. This illustrates the challenge facing the shipping sector in the years ahead – a challenge we as Cargill Ocean Transportation are committed to do our part in overcoming.



SCC benchmark

Carbon intensity to be aligned with reduction trajectories that achieve the IMO strategy of net-zero GHG emissions by 2050 for our chartered fleet

Progress

- 0.9% above old SCC trajectory
- 17.5% above new SCC trajectory based on IMO minimum target
- 23.0% above new SCC trajectory based on IMO striving target



2030 target for internal Cargill customers

30% GHG reduction per tonne mile (EEOI)

Progress

- 5% below 2017 baseline
- 10% above 2023 benchmark trajectory



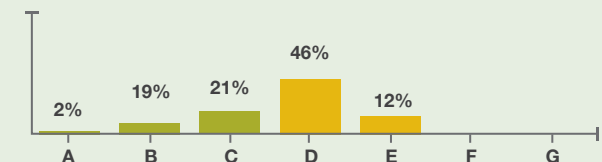
Standing Cargill target

80% of our fleet will be rated A through D by RightShip

Progress

- 88% are rated A through D

GHG Ratings (Number of voyages)



In December 2023, RightShip adjusted the criteria for its rating system. Our 2024 reporting cycle will reflect this change.

How we calculate our results

We track our decarbonization progress against two benchmark trajectories: the SCC's, which aligns with the 2023 IMO strategy of reaching net-zero GHG emissions from shipping by 2050, and Cargill's corporate target of a 30% reduction in Scope 3 emissions per ton of product by 2030 against a 2017 baseline.

To calculate both, we apply the IMO Guidelines for Voluntary Use of EEOI in our methodologies. A ship's EEOI represents its CO₂ emissions divided by actual transport work. It expresses the average carbon intensity of a ship in its real operating conditions, considering its actual speeds, draughts, capacity utilization, distance traveled and the effects of hull and machinery design and condition, as well as weather. The unit for EEOI is gCO₂e/t.nm (grams of CO₂ equivalents per tonne mile). In accordance with the SCC methodology, our calculations include ballast voyages prior to the commencement of our charters.

We also transitioned from tank-to-wake to well-to-wake for our fuel lifecycle calculations this year. Prior-year figures have been updated in this way as well, using an average alignment factor to make the conversion.

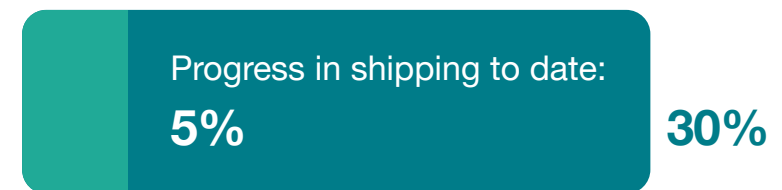
EEOI% change year-on-year by vessel size

	2018	2019	2020	2021	2022	2023
Cape	4.9	-3.4	-0.8	2.3	-11.0	-9.6
Handy	-0.5	-5.0	-4.1	6.0	0	-5.4
Panamax	1.6	-5.2	0	6.0	-4.0	-5.3
Supramax	-1.7	-5.4	-5.0	6.6	-2.0	-6.4
Tankers	-1.7	-14.0	4.1	10.0	8.6	6.1
Total						-5.5

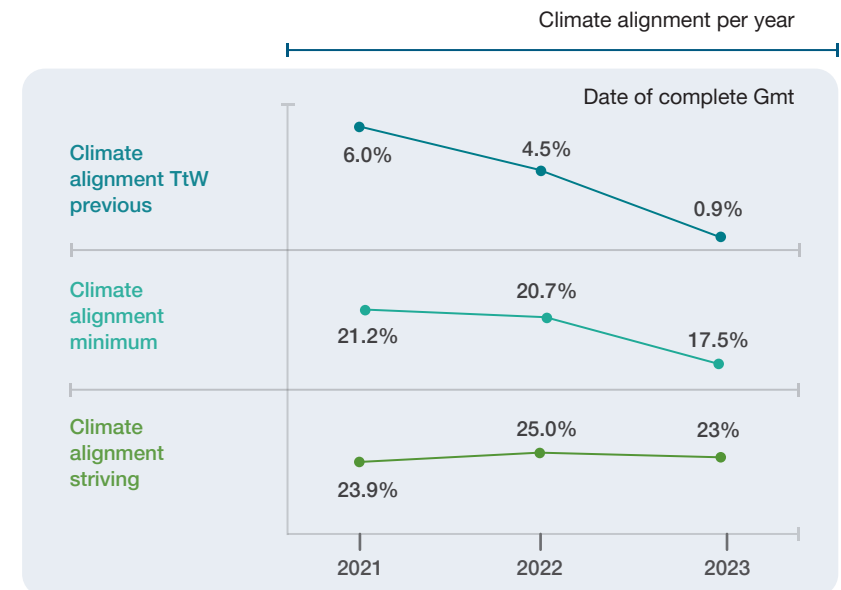
EEOI fluctuates year-on-year and segment-per-segment under the influence of external factors, but overall we have seen a 5.5% improvement through 2023 compared with 2017.

Cargill Ocean Transportation target

For internal Cargill customers:
30% GHG reduction per tonne mile (EEOI)



SCC target

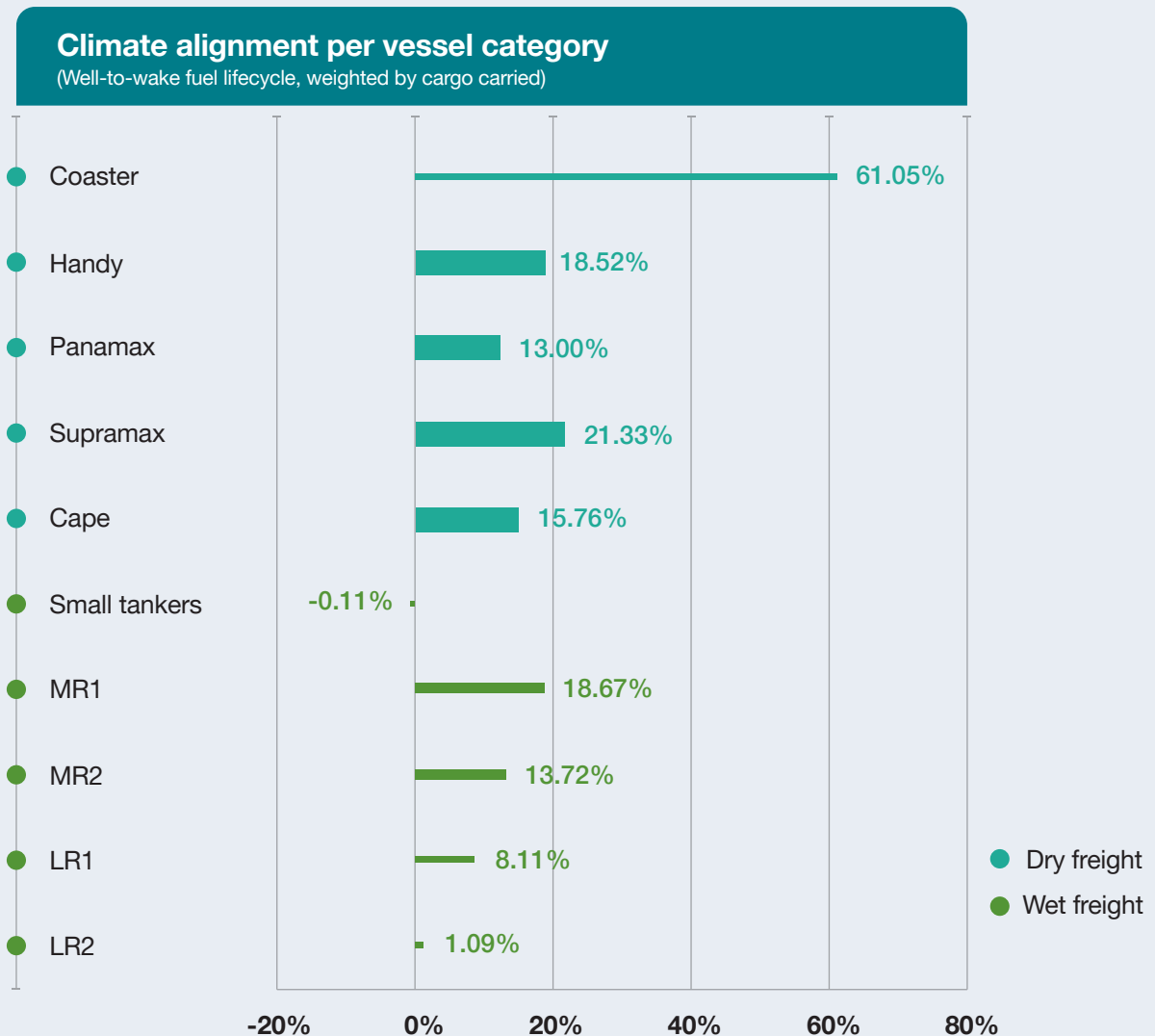


A deeper dive into our SCC results

The SCC brings together 35 of the world's leading charterers and owners of cargo ships with the aim of reducing shipping's climate impact. Cargill Ocean Transportation played **a leading role in its founding in 2020**, and this is our third year reporting under its framework.

This framework enables companies to transparently disclose their progress on decarbonization based on the SCC's trajectory aligned with the 2023 IMO strategy to achieve net-zero GHG emissions in the shipping industry by 2050. Using the SCC's published methodology, companies assess their fleets' carbon intensity annually. Results above the trajectory (reported as positive percentages) indicate that additional work is needed to "catch up" with the IMO goal. Results below the trajectory (reported as negative percentages) indicate performance that is ahead of target. To learn more, visit www.seacargocharter.org.

In 2023, our overall results improved 3.4% on an absolute basis compared to the previous year, which was itself an improvement against the year before. Although the majority of this year's improvement was driven by market conditions that facilitated sailing at slower speeds, our decarbonization efforts with shipowners and customers are also having an impact. All figures have been adjusted to reflect the steeper SCC trajectory to match IMO's increasingly stringent target of reaching net-zero emissions by mid-century. And we have switched to measuring fuel lifecycle using well-to-wake, in line with updated SCC guidance, although this does not represent a significant change in our overall trendline.



The length of the bars represents each vessel category's climate alignment. The width of the bars indicates each category's weighting in transport work, expressed in tonne miles.

The pathway to industry decarbonization



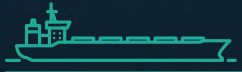

Achieving the maritime industry's decarbonization goals will require a sustained, concerted effort by many stakeholders across decades. We are pleased that in 2023, the IMO released [detailed guidance](#) for how the industry can get there. It is a significant turning point after years of company- and coalition-led efforts, and it provides a realistic pathway that all stakeholders can organize around.

During the remainder of the current decade, we will focus on experimenting with the technologies, fuels and market mechanisms that will set us up for rapid decarbonization during the 2030s.

Because the shipping industry is expected to grow on an absolute basis, reaching the IMO's **GHG reduction target of 70% to 80%** by 2040 will require carbon intensity reduction by upwards of 90%.

On a practical basis, achieving this will require the industry to effectively stop using fossil fuels.

We are optimistic that the industry can reach these ambitious targets. And even though we are charterers, we are not afraid to invest, share risk and lead the way forward.

	2020s	2030s	2040s
 IMO strategy	<ul style="list-style-type: none"> At least a 20% reduction in annual greenhouse gas (GHG) emissions for global maritime shipping by 2030 against a 2008 baseline, striving for 30% At least 5% of energy used for shipping coming from zero or near-zero GHG technologies and fuels by 2030, striving for 10% 	<ul style="list-style-type: none"> At least a 70% reduction in annual GHG emissions by 2040 against a 2008 baseline, striving for 80% 	<ul style="list-style-type: none"> Net-zero GHG emissions
 Shipping industry	<ul style="list-style-type: none"> Prepare the industry for rapid decarbonization in the 2030s Explore new technologies, run pilot projects, and update the industry's decarbonization strategy Comply with emerging climate legislation 	<ul style="list-style-type: none"> Rapidly scale up technologies that were explored in the 2020s, particularly near-zero-carbon fuels 	<ul style="list-style-type: none"> Conclude the pathway toward the industry's climate goals
 Cargill Ocean Transportation	<ul style="list-style-type: none"> Run pilot projects on near-zero-carbon fuels Explore new energy-saving technologies and implement proven ones 	<ul style="list-style-type: none"> Scale up low-carbon freight services, in particular by using near-zero-carbon fuels 	<ul style="list-style-type: none"> Achieve our 2050 decarbonization goals Mainstream near-zero-carbon shipping
 Cargill working with our customers	<ul style="list-style-type: none"> Work with customers to decarbonize their Scope 3 emissions from shipping Engage with customers in pilot projects using new technologies and fuels Progress green corridors 	<ul style="list-style-type: none"> Systematically increase the proportion of low-carbon vessels in our fleet* Make these vessels the default first choice for customers 	<ul style="list-style-type: none"> Mainstream near-zero-carbon shipping

*Some examples of the technologies to be deployed on low-carbon vessels are detailed on pages 10-14.

Experimenting with the ships of tomorrow

Whether it's wind, biofuels or methanol, we are working with a range of partners and customers to pioneer the types of propulsion that will help the industry rapidly decarbonize in the 2030s. Some of the most promising experiments are on the water now or will be soon, offering our customers a new set of options to test out.



An array of wind technologies



Pyxis Ocean

This innovative vessel embarked in August 2023 and sailed several voyages across the Indian, Pacific and Atlantic oceans. Retrofitted with two giant metal and composite sails that resemble airplane wings, the Cargill-chartered Kamsarmax turned in exciting early results as the crew tested how to use the WindWings® technology to reduce fuel consumption and therefore emissions. Developed in partnership with BAR Technologies and owned by MC Shipping, Pyxis Ocean is now the most efficient Kamsarmax vessel on the water according to RightShip's GHG rating. With extensive sensor systems installed on board to measure all sorts of performance indicators, we continue to work with BAR Technologies and MC Shipping to gather more data on the operational performance of Pyxis Ocean, which in turn is being independently verified by DNV.

The WindWings® on Pyxis Ocean were partly funded by the European Union's Horizon 2020 research and innovation program, under CHEK project, grant agreement No. 955286.

NBA Magritte

NYK Group will be installing a smaller set of sails on this 11-year-old Kamsarmax vessel that we have on long-term time charter. The 16-meter VentoFoil® vertical suction sails from Econowind create propulsion by drawing in wind through a suction port and amplifying the pressure differential on either side of the sails. The smaller sails are easier to maneuver around during loading and unloading at port and will provide useful data and learnings that can be used to predict performance of larger installations of this technology for the future.



TR Lady

Another Kamsarmax vessel chartered by Cargill, the TR Lady is owned in a fund managed by Tufton, retrofitted with rotor sails by Anemoi Marine Technologies in July 2023. The rotors are [tall cylinders](#) that spin to translate wind into propulsive thrust that cuts fuel use. The rotors can also slide to port or starboard to simplify cargo loading and unloading. During an initial voyage from China to Australia, engineers tested the sails and saw promising results. We are now working with Tufton, Anemoi and Lloyd's Register to gather more comprehensive data on the savings potential of this installation.



Small ships, big on innovation

As much smaller vessels, coasters are ideal for short voyages, skipping across a local region. Although they carry less than the big ships, they play an important role in the industry – and so, their efficiency matters, too. We recently took out a five-year charter on two new coasters commissioned by shipowner Gerdes Green and being built by Damen Shipyards.

These are no ordinary coasters, though. A hybrid propulsion system including shore power and battery storage options, aided by turbosails, could reduce GHG emissions at sea and in port. When they do use fuel, they are designed to run on up to 100% biodiesel, like the fuel produced at [Cargill's advanced biodiesel](#) facility in Ghent, Belgium. This will offer a broader set of options for customers of all sizes looking to decarbonize their supply chains. It expands the portfolio of technology solutions and combinations that we are piloting now for potentially scaling up to bigger vessels in the future.

Exploring methanol

Methanol is one answer in the complex equation for industry decarbonization that we are exploring alongside other possibilities. We were the first dry-bulk charterer to sign commercial agreements for dual-fuel methanol-powered ships, which are set to hit the water between 2025 and 2026. To date, we have signed commercial agreements for five such vessels. We also joined the Methanol Institute as a member and have led discussions with suppliers and customers about how to scale methanol supply chains. As a first mover, we relish uncovering unknowns and working to pioneer new answers.

A unique R&D project

We have learned a lot about new forms of propulsion in recent years, layered on top of our longtime expertise in operating a sizable fleet along global trade flows. We recently pooled this knowledge with shipowner Minerva, shipbuilder NACKS and classification society Lloyd's Register to develop a methanol-ready Kamsarmax with wind-assisted propulsion. Simulations by NACKS indicated that optimized hull design and energy-saving devices boost this vessel design's efficiency even further.

Completed in 2023, the design is now available to shipowners who may wish to order it in the future. Someday, such vessels could become part of the Cargill charter fleet. In the meantime, it's another example of how we are contributing our know-how to the industry's decarbonization.

A smart mix of solutions for today

Large or small, every bit of effort adds up. Decarbonization of ocean shipping will depend on numerous different solutions, incubated and implemented by startups, charterers and vessel owners alike. We have already deployed many on the vessels we operate and will continue to explore and adopt new ones with our partners.



Charting a more precise course

ZeroNorth is an innovative platform that helps vessels find the most efficient routes as they traverse the open seas. As a joint venture partner in the company, we lend our internal expertise and data from our substantial fleet to help ZeroNorth refine its models. This has helped ZeroNorth deliver more tailored and specific speed and routing instructions to our own time-chartered vessels – nearly all of which use ZeroNorth’s platform – while benefiting other users of the platform as well. It’s another way we are investing funds and energy to provide pathways forward for the industry.

The power of parcelling

Why make two trips when you can make one instead? Parcelling is a method to combine cargoes on a single, larger vessel, which is usually more fuel efficient. Our research shows that effective parcelling can reduce the emissions of a cargo by 10% to 20% on average compared to sending it on its own vessel.

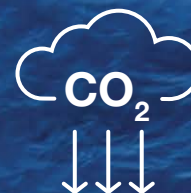
Yet parcelling is not simple – it requires extensive coordination with counterparties and customers. This year, we scaled up the parcelling desk within our business to get more involved in this emerging part of the industry. With dedicated trading and operations team members now focused on parcelling, we will be able to expand the number of cargoes in the years ahead.

Smooth sailing – and more efficient, too

There are a hundred small ways you can maximize a vessel’s efficiency. Whether it’s devices to improve the flow of water around the ship, engine upgrades or a better coat of paint, it can add up to less fuel consumption and lower emissions. We have partnered with the owners of many of our time-chartered vessels to make these upgrades.



Nearly all
of our time-chartered voyages in 2023 used
**ZeroNorth’s optimization
technology.**



10% to 20%
reductions in emissions on average are
possible through parcelling, compared with
shipping cargoes individually.



**In 2023 we saved
27,000 tons**
in emissions thanks to energy-saving
upgrades on our time-chartered vessels.
We also conducted close to 700 underwater
inspections and cleaned the hulls of the
ships that were found fouled to ensure
optimum performance.

Greater logistical flexibility

Supply chain bottlenecks can quickly turn into a challenge – but we also see them as an opportunity to improve efficiency. On one of our vessels in Brazil, we coordinated closely with our customer and other parties to amend contractual terms so the vessel could avoid unnecessary repositioning and tender her Notice of Readiness at another more optimal location. This optimization saved us nearly 30 hours of navigation as well as enough fuel to avoid approximately 82 metric tons of CO₂ compared to the original, planned voyage. We will continue to explore how we can identify other optimization opportunities, opening more doors of collaboration to scale up this type of flexibility and efficiency in our operations.

Exploring a new wave of ideas

We are excited to continue working with partners to test innovative solutions that improve the safety and efficiency of maritime shipping. This past year, we worked with Safetytech Accelerator to test two such ideas. The first was a robotic hull cleaner that inspects and scrubs a ship while in motion, moving around it using magnetic wheels. This technology has the potential to reduce both the risk of invasive species transfer and GHG emissions.

Meanwhile, we know that more data will give a boost to vessel efficiency. Voyage guidance systems and other modeling platforms need data from ships to learn, but much of this data is available only from analog or locked down instruments on board a ship. That's why we tested a technology that will help digitize data of this kind on older ships that are lacking digital infrastructure, feeding that data to various platforms. This can potentially support our aim to make more efficient decisions about ship operations in the future.

Selecting higher-rated vessels

We conduct thousands of voyages a year on approximately 2,000 unique vessels. Some of these we charter over the long term, while others we take on for just a single voyage. We vet all these vessels through RightShip's leading framework for both safety and GHG emissions. We have a strict policy to avoid ships with the lowest ratings, and we strive to choose vessels in the top three ratings in these two categories for our long-term charters.

This vetting goes far beyond just looking at a score. Our teams rigorously inspect vessels to scrutinize their design, condition and performance. This approach ensures that our fleet is among the most modern, efficient and safe in the industry.

Calling all ports

Maritime decarbonization isn't just about ships at sea; it's also about ports. This year, we increased our engagement with ports to accelerate decarbonization activities. For instance, we connected to work through how to load and unload ships with large wind-assisted propulsion systems on board. We also spoke about modernizations like Virtual Notice of Readiness (VNOR) so ships can sail slower with fewer emissions rather than burning fuel to arrive quickly at port only to wait in a queue. And at the start of 2024, we became a member of the International Alliance of Ports and Harbors (IAPH). We look forward to continuing to partner with ports and terminals, because we know that they will play a key role in the sector's decarbonization journey.



Helping our customers navigate change

Some customers are already compiling detailed information about emissions, voyages and decarbonization trajectories. Others may still be planning their approach to decarbonization and looking to learn what's possible. No matter where they fit on that spectrum, all of them can take advantage of our new customer portal to make their lives easier and take the next step forward in their journeys.

Our portal shows a live view of ships on the water, contract information and more. Our transparent approach means customers can see vessel inbound positions enabling customers like Tenco to identify opportunities and optimize supply chain efficiency. Josh Bannan, CEO of Tenco: "Thanks to the visibility we gained through Cargill's portal, we're able to make small changes that can save time, money and CO₂. Our team recently saved \$130,000, as well as 1.5 days at sea (together with the associated CO₂ emission savings), through adjusting load rotation and sequences to backload some part cargoes we had at the discharge ports which were called during prior cargo."

Our portal allows customers to see a real-time snapshot of their carbon footprints on demand and easily export their data for SCC reporting. They can input their own carbon targets and see how their voyages with Cargill compare against those goals, including looking back over several years. Customers can even simulate voyages in the portal with different cargoes, vessels, routes and other factors to explore what their carbon footprints could look like. And they can upload data from non-Cargill voyages to get a

more complete view of their footprints and their SCC trajectories. A handy FAQ section also helps clarify regulations and demystify jargon for emerging topics in the decarbonization space.

All of this equips customers to have deeper discussions with us about how they can reduce their footprints, manage voyages and plan ahead for their businesses. Leading sugar trader Alvean has found the functionality of the portal to be especially useful.

"The new multi-dimensional sustainability module offered in Cargill's customer portal has substantially improved the visibility and therefore the general awareness on the carbon emissions of our shipping activities. With the data available on demand, this tool has helped put carbon emissions reduction even more at the heart of our sustainability strategy," said Regis Leonhard, Global Head of Treasury and Structured Trade Finance at Alvean.



Using biofuels to help customers decarbonize

We continue to expand offerings and establish commercial infrastructure for second-generation biofuels that can help customers reduce their carbon footprints today. These biofuels are drop-in fuels, meaning they can be used alongside conventional fuels with no modifications to vessels. They are generally made from fatty acid methyl esters (FAME), including from Cargill's advanced biodiesel facility in Ghent, Belgium.

This past year, we moved from trialing these fuels to frequent execution as we prepare to scale up. We lifted nearly 172,000 metric tons of biofuel blends containing 63,000 metric tons of FAME during the year for our own voyages, and, primarily, for third parties that value Cargill's FAME origination process. Our goal is to improve the economics of CO₂ abatement so we can meet future demand, focusing on the industry's central bunkering hubs and key shipping corridors. Our relationships with bunker suppliers help us to lead in this space. This year, we saw significant growth in the biofuels we supplied out of Singapore, in particular.

In the course of using these biofuels, we also have built up a ledger of verified carbon savings that has been audited by DNV. Now, we are talking to customers about how they may want to use these savings as insets to accelerate decarbonization of their Scope 3 emissions.



172,000
metric tons of
biofuel blends lifted
in 2023

Cargill's advanced FAME
biodiesel facility in Ghent, Belgium.

How we move together toward the horizon

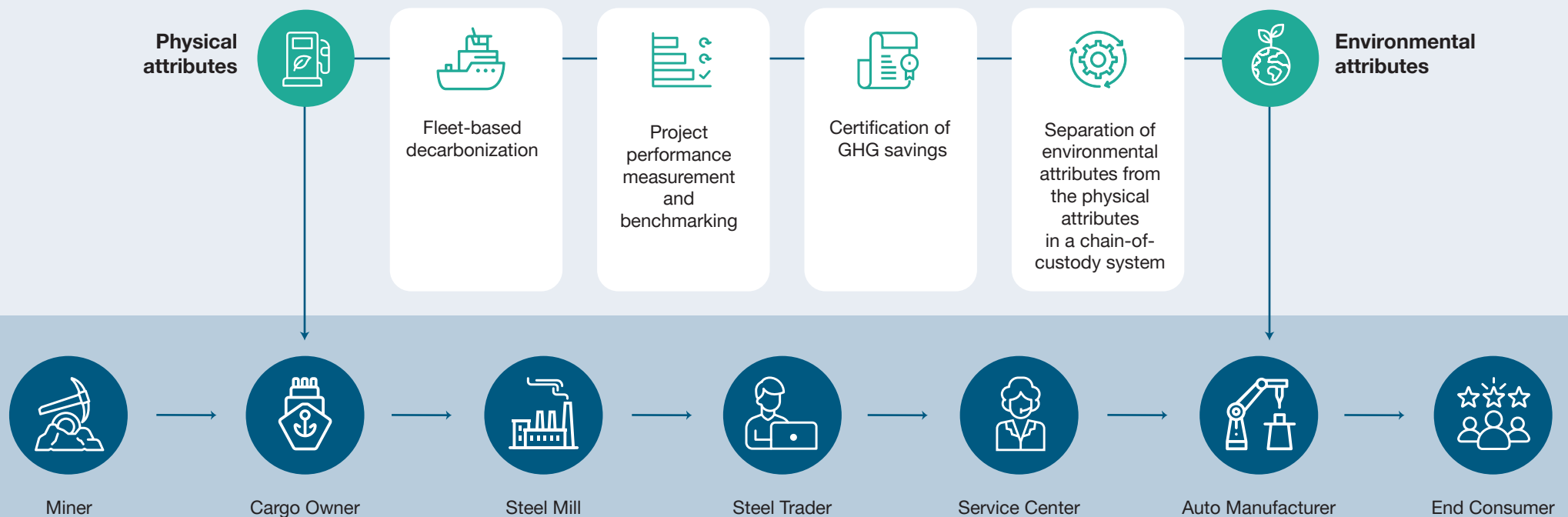
The shipping industry is now entering a new phase of decarbonization, with an array of experimental ship designs, fuels, digital technologies and more. By the 2030s, we will need to rapidly scale the best of these ideas in order to reduce shipping's carbon footprint at the rate the world needs.

As we enter this adoption phase, we need to find economically viable approaches that will allow us to scale up carbon reductions without sacrificing the industry's operational efficiency. In this sense, decarbonizing voyage by voyage simply isn't feasible.

We need a market mechanism that allows companies to steadily turn up the dial across their supply chains rather than trying to flip a single switch. This year, we have discussed with customers, our customers' customers, and other partners some possibilities for what this chain-of-custody system could look like, including a book-and-claim or mass balance approach. We are also participating as an active party in the Maritime Book and Claim System pilot with RMI and the Maersk Mc-Kinney Møller Center for Zero Carbon Shipping.

Agriculture can be a guide in this area, as we have seen in the emerging space of [regenerative agriculture](#), where Cargill is already a leader. A similar mechanism with clear methodologies and standards could be a significant step forward for decarbonizing shipping.

How a mass balance approach could work in shipping



The power of partnerships

Decarbonizing maritime shipping will be a monumental task extending over the coming decades. We are committed to helping lead the effort, but we know that no one organization can do it alone. Ship owners, ship builders, charterers, port operators, policymakers, NGOs and other stakeholders all have an important role to play.

That's why we work across a broad coalition of partners to pool the best thinking and catalyze progress. This, combined with our internal efforts and our work directly with our customers and shipowners, will help keep us on the pathway toward the ultimate goal of net-zero shipping.



Certification statement from DNV



SOF No. 2024.072

Company name: **CARGILL INTERNATIONAL SA**
 Subject: **Verification statement on Sea Cargo Charter Reporting 2023**
 Version No.: **2024 Report (2023 Performance)**
 Assessment date: **2024-04-23**

THIS IS TO STATE THAT

DNV Maritime Advisory has reviewed and assessed the report on the Sea Cargo Charter (SCC) climate alignment prepared by Cargill Ocean Transportation for the fleet it operated in 2023.

Approach

1) Cargill's responsibility

Cargill was in charge of gathering and preparing voyage data for the full year 2023 as part of its reporting obligations under the Sea Cargo Charter. This process was carried out in line with the calculation and reporting standards defined by the Sea Cargo Charter's Technical Guidance (version 4.0). Cargill has computed voyage-level emissions intensity, evaluated climate alignment, categorized vessels, and calculated the overall annual climate alignment for its fleet.

2) DNV's responsibility

DNV is a 3rd party verifier for Sea Cargo Charter data, providing verification statements for numerous charter signatories. In its role, DNV verifies the data and the methodology used by the signatory to ensure compliance with the guidelines outlined in Section 2 of the Sea Cargo Charter's Technical Guidance (version 4.0) and the recommendations in the Indicative Verification Guidelines. DNV's verification process is based on professional judgment and includes various procedures such as inquiries, observation of processes, document inspections (e.g. bill of lading), analytical reviews, and validation of quantification methods, ensuring

consistency with underlying records. DNV also serves as the Recognized Organization for the verification of IMO DCS and EU MRV data. Furthermore, it serves 14 signatories of the Poseidon Principles (both banks and insurance companies) in their reporting.

Results

DNV concludes that Cargill's data is of high quality and complies with Sea Cargo Charter regulations. Cargill provided satisfactory responses to all questions related to data quality and accuracy. To ensure thoroughness, DNV conducted random spot checks of selected voyages against bills of lading, AIS data, and IHS data, all of which confirmed the accuracy of Cargill's submissions. Calculations of EEOI and climate alignment of the entire fleet are in accordance with defined latest Sea Cargo Charter's Technical Guidance (version 4.0). Other than in previous versions of guidelines, Sea Cargo Charter is taking a well-towake perspective. Underlying data on fuel consumption and transport work have been validated based on random sampling.

1) Fleet EEOI: The required EEOI for the entire fleet under the 2023 IMO GHG Strategy "Minimum" trajectory (IMO Minimum) is 7.15 gCO₂/t NM and for the fleet under the 2023 IMO GHG Strategy "Striving" trajectory (IMO Striving) is 6.83 gCO₂/t NM, whereas the attained EEOI of the entire fleet is 8.40 gCO₂/t NM.

2) Fleet Climate Alignment: The annual activity climate alignment score of the entire fleet for the year 2023 against the IMO "Minimum" trajectory is +17.5% and against the IMO "Striving" trajectory is +23.0%.

3) Climate Alignment by segment:

- The attained carbon intensity for the bulk carrier segment is +17.9% higher than the required IMO "Minimum" carbon intensity and +23.6% higher than the required IMO "Striving" carbon intensity.
- For the chemical tanker segment the attained carbon intensity is +13.7% higher than the required IMO "Minimum" carbon intensity and +16.1% higher than the required IMO "Striving" carbon intensity.

For the oil tanker segment, the attained carbon intensity is -6.1% lower than

the required IMO "Minimum" carbon intensity and -1.5% lower than the required IMO "Striving" carbon intensity.

4) Climate Alignment by sub-segment: The climate alignment score for different ship sub-segments, as defined by SCC requirements, for 2023 are:

	IMO Minimum	IMO Striving
• Bulk carrier		
◦ 0 to 9,999 DWT	+45.3%	+52.3%
◦ 10,000 to 34,999 DWT	+28.5%	+34.7%
◦ 35,000 to 59,999 DWT	+20.2%	+26.1%
◦ 60,000 to 99,999 DWT	+16.4%	+22.0%
◦ 100,000 to 199,999 DWT	+17.9%	+23.6%
◦ 200,000 & above DWT	+13.9%	+19.5%
• Chemical tanker		
◦ 0 to 4,999 DWT	-10.1%	-8.2%
◦ 5,000 to 9,999 DWT	-3.4%	-1.4%
◦ 10,000 to 19,999 DWT	-0.1%	+2.0%
◦ 20,000 to 39,999 DWT	+17.3%	+19.7%
◦ 40,000 & above DWT	+17.2%	+19.7%
• Oil tanker		
◦ 5,000 to 9,999 DWT	-38.6%	-35.6%
◦ 60,000 to 79,999 DWT	-25.8%	-22.2%
◦ 80,000 to 119,999 DWT	-4.0%	+0.7%

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Dr. Jan-Henrik Hübner

Jakub Egger-Czerwoniuk

An aerial photograph of a vast blue ocean under a cloudy sky. A white wake from a ship stretches across the water from the right side towards the horizon. The text is centered in the middle of the image.

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Cargill Ocean Transportation
Esplanade de Pont-Rouge
4 Grand Lancy – Geneva, Switzerland

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