

All kinds of ships—cargo, cruise, tankers, and military, for instance—end up in shipbreaking yards, like this one in İzmir, Turkey. Shipbreaking is hazardous work and not all shipbreaking yards are considered safe. Photo by Mehmet Emin Menguarslan/Anadolu Agency via Getty Images

How the Shipping Industry Sails through Legal Loopholes

A murky world of shell companies, flags of convenience, and end-of-life flags allows companies to dodge accountability and dispose of ships cheaply.

by Paul Tullis

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On December 16, 2018, the container ship *Cecilie* left Mauritius for Dubai. Sailing from the tiny island nation in the Indian Ocean to the United Arab Emirates was a shift from the typical route it had traveled for 20 years while shuttling goods.

The *Cecilie* wasn't particularly big for its era, and it withers in comparison to today's largest ships. But it could still carry more than 11,000 tonnes of cargo—equivalent to roughly 7,500 Honda Accords—in thousands of metal containers, each as large as a small studio apartment. The ever-expanding carrying capacity of ships offered the *Cecilie's* owner, AP Moller-Maersk A/S of Denmark, economies of scale not possible with earlier ship designs. Three other Maersk ships of the same vintage—the *Clara*, the *Thomas*, and the *Claes*—were about as large as the *Cecilie*. All four had spent more than two decades plying the waters off Europe and the west coast of Africa, rarely calling at other ports after 2004.

A week after the *Cecilie* traveled to Dubai, the *Thomas* arrived there from a Spanish port. The *Clara* left Spain for Dubai next, followed by the *Claes*. Shortly after those voyages, Maersk sold all four ships. Three went to companies known for scrapping ships on beaches in South Asia. The *Claes* went to a company with two employees headquartered at an address in the Caribbean associated with shell companies, which companies that buy ships for scrapping are known to use. The movements and transactions are notable—particularly the three ships' voyages from Spain—because the European Union has a regulation that bars hazardous waste from leaving its ports for countries that are not members of the Organisation for Economic Co-operation and Development (OECD). Since ships contain toxic material, they qualify as hazardous waste under the European Union's Waste Shipment Regulation (WSR). Countries in the OECD, an intergovernmental group of 38 member countries around the world, generally have stronger environmental and labor standards than nonmembers.



The *Cecilie* was a cargo ship once owned by AP Moller-Maersk A/S of Denmark. Photo by Archive PL/Alamy Stock Photo

But like hundreds of ships each year, the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes* ended up in India, a non-OECD country, on a beach where workers dismantled them in dangerous conditions and with little regard for the hazardous materials they contained: cadmium, lead, asbestos, mercury, hydrocarbons from the burning of fuel, and residue oils. Hundreds of workers have died in shipbreaking yards in India, Pakistan, and Bangladesh in recent years.

Taking the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes* to Dubai—where only one of those ships had ever called, and only once—raises questions. If Maersk decided to sell the ships once they were in Dubai, Spain could not enforce the waste shipment regulation.

“Why did Maersk bring the ships to Dubai?” asks Ingvild Jensen, executive director of NGO Shipbreaking Platform, a Belgium-based nonprofit that monitors the disposal of ships worldwide and advocates for sustainable ship recycling. It’s a question that vexes Jensen. If a shipping company decides to dispose of a ship before it leaves the European Union, that would make the export a breach of the WSR.

The unusual destination wasn’t the only change in the ships’ operations that alarmed Jensen.

On December 31, 2018, a new law took effect in the European Union: the Ship Recycling Regulation (SRR). It requires companies to scrap EU-registered ships in EU-approved facilities that maintain environmentally sound operations and ensure worker safety. Less than six months before the SRR took effect, Maersk reregistered the Danish ships in Hong Kong.

The last voyages of the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes*—each with a new owner and reregistered yet again—were to a shipbreaking yard in Alang, India, where there are no EU-approved facilities.

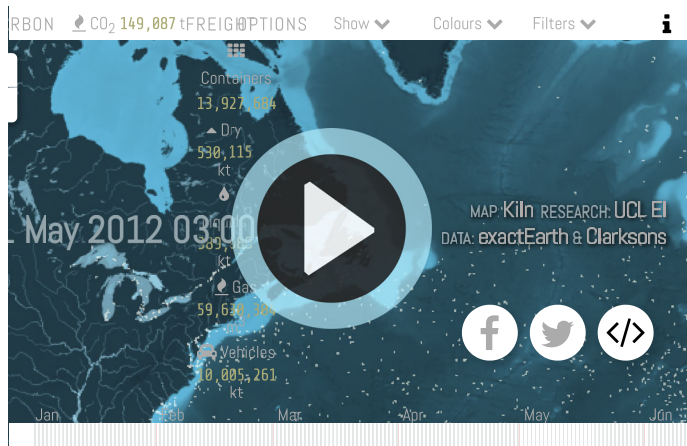


The shipbreaking yard in Alang, India, is considered by many experts to be a subpar enterprise. Photo by Dinodia Photos/Alamy Stock Photo

By requiring EU-registered ships to be dismantled safely in an EU-approved facility, the SRR is meant to bolster the older, and ineffectual, waste shipment regulation. But if a company registers a ship outside the European Union just prior to dismantling—a process that's cheap and easy—it can evade the ship recycling regulation.

Repeated requests for comment to Maersk senior press officer Christian Kjærgaard-Winther went unanswered.

The cases of the four Maersk ships are emblematic of a dark side of the globalized economy and the international shipping industry. Every day, nearly 100,000 container ships, oil and chemical tankers, vehicle carriers, and other vessels sail the oceans carrying the products we buy, the raw materials that go into manufacturing those products, and the fuels that power it all. The OECD reports that 90 percent of all goods are transported by ship. The ships themselves emit more than one million tonnes of carbon dioxide per day, more than twice that of the entire United Kingdom. Once they've reached the end of their useful lives, more than 70 percent of ships of all types—which includes not only cargo carriers and tankers but drilling platforms, cruise ships, tugs, and more—end up in shipbreaking yards in India, Pakistan, or Bangladesh, according to analysis by NGO Shipbreaking Platform. (The ships that end up there tend to be among the bigger ones; they represent 90 percent of the discarded gross tonnage.) In 2021, the share of broken ships and offshore units heading to the three countries was 76 percent, representing close to the entire volume of gross tonnage scrapped worldwide. The yards are not EU-approved for safe dismantling under their ship recycling regulation. At least two yards, both in Alang, have applied for EU approval but were rejected.



At any given moment, tens of thousands of cargo ships are in transit around the world. This map was produced by animating hundreds of millions of individually recorded ship positions from 2012. Use the controls at the top to change your settings. Click the play button to hear an audio explanation. Created by London, England-based data visualization studio Kiln and the UCL Energy Institute

Dodging regulations is possible because of the dramatic rise in the use of flags of convenience (FOCs). Ships must be registered in a country. Flags of convenience are countries that allow ship owners to pay a fee to register with a country that fails to police international maritime law or regulations. Once sold in Dubai, the new owners reflagged the four former Maersk ships to FOC nations for that last voyage to Alang.

Welcome to the murky world of shipping.

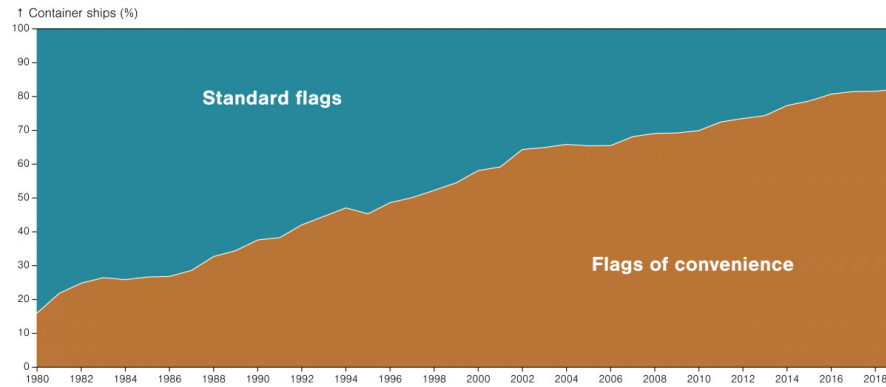
The rise of flags of convenience

Until the *Ever Given* ran aground in the Suez Canal last spring, and supply chain disruptions related to the COVID-19 pandemic and other factors brought the shipping world into the headlines, the industry had been content to maintain a low profile. Though the world has suddenly woken up to shipping's role as the most critical part of the globalized economy, its enormous effect on global trade and world affairs goes back thousands of years.

Phoenician and Roman ships carried olive oil, wine, and timber for trade around the Mediterranean. In the early 1400s, Ming dynasty admiral Zheng He commanded seven voyages, on ships more than four times the length of Christopher Columbus's, from China through the Indian Ocean and the western Pacific, reaching as far as southern Africa's Cape of Good Hope and trading silks and porcelain for goods from across the known world. The Dutch designed a ship in the 1400s that could withstand treacherous deep waters, allowing them to fish farther from their own shores and bring the catch to market before it spoiled. The additional revenue juiced the economy, and turned a swampy backwater into a global power, buttressed by slave labor, that would defeat the powerful empires of England and Spain in major naval battles in the 1600s. Galleons moved commodities and enslaved people from Asia and Africa to Europe and the Americas well into the late 1800s. It was the first wave of globalization.

Flags of convenience made their first appearance in 1915, when a new US law limited working hours and guaranteed wages for seafarers on US ships. Within a few years, Panama and Honduras began offering flags of convenience, which helped shipping companies keep down costs by skirting the new US law. FOCs accelerated after the Second World War, during what's considered the second wave of globalization, as new industry-led organizations with access to more capital and new transportation technologies allowed for the rapid and cheap movement of goods. Competition became fierce and FOC states charged into the fray offering cut-rate registration fees and low taxes. Lax labor laws and less stringent inspection regimes added to the savings. Fewer inspections mean fewer repairs, and hence lower operational costs—almost three times lower. With all this ballast to their bottom line, owners can charge less for freight. The savings, of course, are passed on to everyone who purchases goods that arrive on their shores by ship.

Guillaume Vuilleme, an associate professor of finance at the business school HEC Paris, analyzed decades of data for a study about FOCs published in 2020. He found that owners are more likely to switch to an FOC when the rates that shippers can charge for freight are low, reducing revenue, an indication that cost-cutting is indeed a principal incentive. Shipping companies that don't "flag out" can lose customers to competitors that can offer a lower price.

The rise of flags of convenience

The number of container ships worldwide using a flag of convenience has increased dramatically over the past four decades. Graph by Mathew Brown, data supplied by Guillaume Vuilleme

In the past four decades, FOCs have exploded. In his study, Vuilleme found that in 1980, 20 percent of the global tonnage of container ships—vessels like the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes*—flew flags of convenience. By 2019, the figure was 82 percent. By lowering taxes and fees, FOC states have spurred governments in Europe to reduce their own taxes on the industry.

The amount of revenue FOC nations are deriving from their open registries is not easy to come by. The most recent national budget published online by Antigua and Barbuda, a small Caribbean nation that offers an FOC, does not list any revenue from its shipping registry. Is one to infer that it is included under the heading Foreign Affairs, International Trade, and Immigration? In that case, it would be less than one percent of funds the country is bringing in. (For comparison's sake, OECD nations receive almost 10 percent of revenue, on average, from corporate taxes.) Palau, with annual revenue of around US \$86-million^[PDF], brought in under \$1-million from its shipping registry in 2018, with the anticipation of more as it renegotiated its deal with the contractor that operates the registry. Perhaps all FOC states are just getting fleeced by the firms to which they have outsourced their registries.

While the rewards to FOC states may not be high, the costs to the environment can be: vessels operating under flags of convenience have caused major oil spills, including the worst oil spill ever in US waters, which was caused by the Deepwater Horizon. Oil platforms, too, must be registered as seagoing vessels, and the US government found that the doomed vessel's flag state, the Republic of the Marshall Islands, had failed to properly inspect the platform prior to the spill and the subsequent explosion. Eleven workers were killed.

The 1958 Convention on the High Seas and the 1982 United Nations Convention on the Law of the Sea require flag states to maintain a “genuine link” with a ship’s owner. Though neither convention defined the term, legal scholars have stated that the best way to demonstrate a genuine link is for a flag country to be able to enforce relevant standards on ships in its registry. In any case, the conventions are seldom enforced, and a 1986 agreement intended to clarify matters never went into effect for lack of ratification by a sufficient number of member states.

The genuine link is not the only legal fiction that the shipping industry employs to evade responsibility for the liabilities they float in the commons, including through virtually all marine protected areas, in the form of their hulking, floating barges of toxicants (and, often, toxic cargo, such as crude oil). The expanding use of FOCs is part of a larger pattern of evasion of responsibility by the shipping industry.

In recent decades, Vuilleme found, shipping firms have increasingly formed subsidiaries consisting of a single ship—shell companies—to disassociate their assets from the potential liabilities the ships represent. The trend began after a blowout of an oil well in 1969, off the coast of Santa Barbara, California, horrified Americans.



When a blowout of an oil well in 1969, off the coast of Santa Barbara, California, horrified Americans, shipping companies began forming subsidiaries consisting of a single ship to disassociate their assets from the potential liabilities the ships represent. Photo by *Santa Barbara News-Press/ZUMApres.com/Alamy Stock Photo*

Previously, the oil industry's negative effect on the environment had been largely confined to faraway and remote places, but the spill from Union Oil's Platform A sent 19 million liters of oil to the beaches and harbor of a US city, one of the jewels of California. The disaster galvanized the modern environmental movement, and regulators and advocacy organizations began searching for ways to make shipping companies liable for damage they caused to natural resources. In March 1978, a tanker ran aground off the coast of France, and a US judge ordered Amoco (now part of BP), the oil company that owned the ship, to pay more than \$85-million (over \$364-million in today's dollars). Then, in 1989, the *Exxon Valdez*, a 300-meter-long oil tanker with a radar system the company knew was broken and hadn't bothered to fix, ran aground in Alaska's Prince William Sound. It remains the second-largest oil spill in US waters, after the Deepwater Horizon. Exxon paid fines, damages, and interest of nearly \$1-billion. The US Oil Pollution Act of 1990 then put the party responsible for any spill on the hook for cleanup and restoration costs.

To avoid paying for their misdeeds, shippers could disassociate their assets from their ships. By making a ship its own separate company, damaged parties could only go after an amount equal to the value of the ship and its cargo. If the ship caused damage, such as by running aground and spilling its cargo, that amount would be small. Today, about 90 percent of merchant ships are subsidiary companies with no assets except the ship. Suing for a catastrophe would be like trying to dredge the Mariana Trench. Bigger, older, and single-hull ships, which are arguably more likely to cause the most damage in the event of an accident, are more likely to be owned by single-ship shells, Vuillemeys found—suggesting that evasion of liability is the impetus for creating subsidiaries.

The subsidiary is referred to as the “registered” owner. This severs the assets of the ultimate owner (or “beneficial” owner, since it's the entity that benefits from the business activity of the registered owner of the ship) from harm caused by the ship. A 2003 OECD report found that it's both cheap and easy to create a complicated screen of corporate entities to shield the beneficial owner. So cheap and easy, in fact, that a typical ship spends none of its life registered with the beneficial owner.

All these cost-cutting measures are paying off. London's Drewry Shipping Consultants Ltd. predicts profits nearing \$100-billion in 2021, with freight rates jumping 50 percent as shipping capacity lags behind increasing demand. Construction of new ships to replace scrapped old ships—like the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes*—is not keeping up. The stock price of Taiwan-based Evergreen Marine, owner of the ship that got stuck in the Suez Canal, is up 1,361 percent since 2020; the company ordered 24 new container vessels in 2021. (A Bangladeshi worker died in 2019 during the dismantling of a ship Evergreen Marine had owned; the company disavowed responsibility, claiming the buyer had assured Evergreen the ship would be scrapped in a facility that met certain standards.) Last year, Maersk's stock rose 62 percent as shippers planned for record-high levels of traffic. And it turned out to be as good as expected: Maersk reported record earnings.

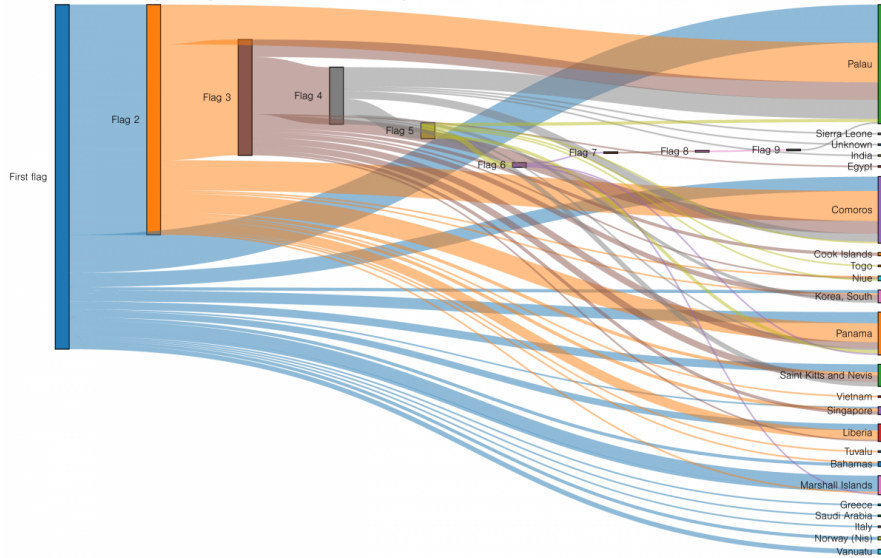
The industry's high profits are at least in part because they don't have to pay for their mistakes. The companies have transferred the risk of their inherently risky operations onto society.

Island nations enabling ocean pollution

Enabling these practices, ironically, are several island nations whose livelihoods and very existence rely upon the continued health of their surrounding oceans. Comoros, off East Africa; Saint Kitts and Nevis, a Caribbean nation; and Palau, in the South Pacific, have been the dominant flags of convenience in recent years.

To drum up business, FOC states offer further discounts, and other incentives, for short-term registration of ships—a last-voyage flag—on the way to the graveyard. It's another means the industry has developed to veil its practices, and it's increasingly popular. “While last-voyage flags were close to nonexistent in the early 2000s, they represented 55.2 percent of all end-of-life ships globally in 2019,” Vuillemeys writes in his study.

Ships can change flags many times during their life span



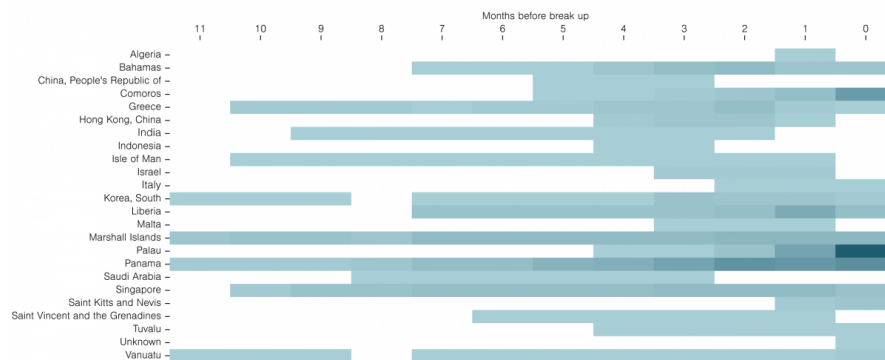
This diagram shows flags flown by container ships that were decommissioned in 2018 and 2019. From their first flag (on the left) to the end of their lives (on the right), two-thirds of the ships changed flags at least once, and more than one-third changed flags at least three times. Graph by Mathew Brown, data supplied by Guillaume Vuillemeey

For the last voyage, a ship’s ultimate owner sells the vessel to a company that specializes in scrapping ships, which registers it to an FOC, and sails the ship to a beach in South Asia. This was precisely the scenario with the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes*.

This animation shows the transitions of flags for ships decommissioned from 2015 to the end of 2019. Orange dots indicate the final flag a ship used before being broken up. Notice the growing popularity of Palau and Comoros, which had only one ship between them at the beginning of the period. Visualization by Mathew Brown, data supplied by Guillaume Vuillemeey

Palau is a useful example. It's one of the most popular last-voyage flags. Vuillemeey found that in 2019, its registry held less than 0.001 percent of the world's fleet, but 59.5 percent of last-voyage flags.

Ships frequently get a new flag in their final year of life



For ships decommissioned in 2018 and 2019, this graph shows when in their final year of life ships got a new flag and what flag it was switched to. Palau is one of the most popular last-voyage flags. In 2019, its registry held less than 0.001 percent of the world's fleet, but 59.5 percent of last-voyage flags. Visualization by Mathew Brown, data supplied by Guillaume Vuillemeey

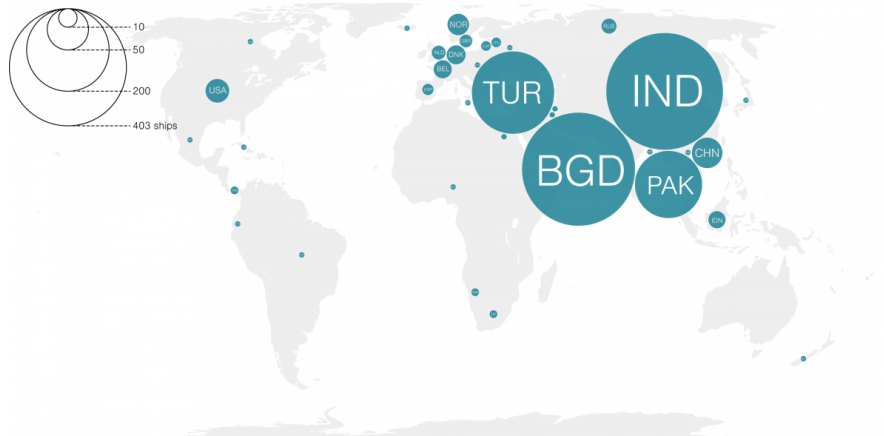
Palau only began selling its flag in 2012, outsourcing the management—as many FOC countries have done—to a Greek firm. In August, International Transport Workers' Federation added Palau to its list of registries designated as FOCs, bringing its total of FOCs to 42.

Landisang L. Kotaro, chief of staff to the president of Palau, declined repeated requests for an interview.

The vessel and the damage done

Flagging ships for their final voyages to the scrapping yards of South Asia is a practice that ultimately causes significant harm in the communities where those scrapping yards are located.

The companies that specialize in last voyages—such as NKD Maritime Limited of the United Kingdom, Ace Ship Recycling Pte. Ltd. of Singapore, Best Oasis Ltd. of Greece, and GMS of the United States, which claims to be the largest such company—are called “cash buyers” because they make their purchases in one lump sum. These companies in turn sell the ships to yards in Alang, or Chattogram, Bangladesh, or Gadani, Pakistan.

Location of ships dismantled in 2019 and 2020

Of all tonnage dismantled globally in 2019, 90 percent was in India, Pakistan, or Bangladesh. Visualization by Mathew Brown, data supplied by NGO Shipbreaking Platform

The facilities lack the capacity to handle ship toxicants which end up in the ocean. The communities gain jobs but generally lack the healthcare and other infrastructure to manage the dismantling risks. NGO Shipbreaking Platform has counted 429 deaths and 344 injuries in shipbreaking accidents since 2009, all at facilities not approved by the European Union. At least one worker died in a yard where Maersk ships have been dismantled (Maersk says none of its ships were at the site at the time of the accident). Of all tonnage dismantled globally in 2019, 90 percent was in India, Pakistan, or Bangladesh. Last-voyage flags flew on close to 64 percent of ships scrapped in 2018, and 55 percent in 2019, Vuilleme found; nearly all of them were broken in one of the three South Asian countries.

Companies that buy ships for scrapping have been known to falsify documents. Bangladesh requires that owners of ships coming into the country for scrapping file papers declaring their ships free of certain toxic materials prior to arrival. But a 2020 investigation by Bangladesh's *Daily Star* newspaper and *Finance Uncovered*, a journalism organization based in the United Kingdom, found 28 certificates that experts suspect were worthless. Out of the 28, 17 of the certificates were filed by shell companies. Since these companies exist only on paper, with no physical office or employees, it would be hard—especially for a country with few resources, such as Bangladesh—to find a person or entity to prosecute for illegally filing such papers. Bangladesh's Supreme Court in 2019 noted “a plethora of illegalities, omissions, deficiencies, and discrepancies” pertaining to the importation of another former Maersk ship, the *Producer*. The court determined that the importation constituted illegal trafficking of a toxic ship into Bangladesh.

Jensen of NGO Shipbreaking Platform says it's extremely likely that “every ship that enters Bangladesh for scrapping enters with a fake certificate.”

Cracking down on violators

In 2013, Maersk's head of sustainability, Jacob Sterling, wrote on gCaptain, an industry news website, "NGOs argue that beaching must end now. We agree." But three years later, Annette Stube, described at the time as Maersk Group's head of corporate social responsibility, told another trade journal, ShippingWatch, that if flying an EU flag "hinders our ability to use the yards in Alang, which we believe deliver a responsible shipbreaking service, then we will consider changing the flag."

Maersk changed the flags of the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes* in July 2018, and within a year sold each of the ships to cash buyers, which scrapped them in South Asia. The Danish Environmental Protection Agency (EPA), where Maersk is based, investigated possible breaches of the toxic waste regulations and the ship recycling regulation. It found that because Maersk had reflagged the four ships before the ship recycling regulation went into effect, it did not apply. "The vessels were either outside the territorial waters of any country when the decommissioning decision was made, and did not sail within the waters of the EU/OECD after the decision or [were] not in Danish territorial waters since before 2012," wrote the legal officer of the circular economy and waste division, Anja Freitag-Weigt, in an email. Since three of the ships left the European Union from Spain, Denmark's environmental authority says it referred the case to that country. The press office of Spain's environmental authority says it never received any such referral, but that nevertheless it had no jurisdiction in the matter because the owner did not officially communicate that the ships were going to be scrapped.

Ship owners based in the European Union account for around one-third of the end-of-life tonnage beached in South Asia. Clearly, EU countries bear some responsibility for solving the problems that the two EU regulations have failed to fix.

Sometimes, the relevant authorities do act—often at the behest of watchdog groups like NGO Shipbreaking Platform. Jenssen says she is constantly monitoring changes of ownership and flag registries for telltale signs of imminent dismantling: "Who's the new owner? What's the flag? Who was crewing? What's the market outlook for the vessel?"

In 2014, the *Global Spirit*, a Japanese-owned ship flagged to Panama that was in a Belgian port at the time, appeared to NGO Shipbreaking Platform to have been sold for scrapping. The organization alerted Belgian authorities. They forbade the *Global Spirit* from leaving Belgian waters until its owners agreed to recycle it in an approved facility. The International Chamber of Shipping, a trade organization, objected. The chamber argued that the waste shipment regulation was intended for toxic cargo, not the ships, therefore the regulation did not apply. Whether lawmakers intended it or not, the text of the law and the fact that ships contain toxic waste make this argument irrelevant at best. Belgium's ultimatum stood.

"Unfortunately, in most cases, we only know that there's been an illegal export when it's too late," Jenssen says. But there have been several instances when NGO Shipbreaking Platform or another organization alerted authorities to an apparent sale of a ship that would be leaving EU waters for breaking in South Asia and nothing was done.

It seems Denmark or Spain could have gone further in their investigations. In 2018, a court in the Netherlands fined the shipping company Seatrade and two of its executives €750,000 (\$92,422 at the time of the ruling), and banned the executives from working in the industry for one year for selling vessels that left the European Union for disposal in South Asian yards. Evidence in the case included email exchanges between Seatrade executives and the sellers, which Dutch prosecutors seized.

Freitag-Weigt, the Danish EPA official, wrote that the date of decommissioning, on which the EPA based its determination that the waste shipment regulation did not apply, is established through publicly available information in a Danish Maritime Authority register. But the act of decommissioning is not the same as the "decommissioning decision," which, Freitag-Weigt wrote, is what is relevant in determining whether the regulation was violated.

Somewhere, at some point, there likely existed on Maersk's servers emails concerning the sale of the *Cecilie*, the *Clara*, the *Thomas*, and the *Claes*, which would establish the timing. Documents indicating breaches of the law have been found on board other scrapped vessels, and companies can be subpoenaed for sale documents. Recent cases show the Dutch action could lead to an indictment in other countries. In August 2021, German prosecutors alleged that the sale of three vessels to an entity the sellers knew would have them scrapped in Pakistan violated the ship recycling regulation, the WSR. And in March, a Norwegian appeals court confirmed the six-month prison sentence of a shipowner involved with selling a ship to a cash buyer and fined his company 2-million kroner (about \$230,000).

“It comes down to knowledge and proactiveness and willingness and the amount of resources EU states have for enforcement,” Jenssen says.

Potential solutions are far-off, and indirect at best

Requiring countries that issue flags of convenience to better oversee the ships they register seems far off. The International Maritime Organization, which regulates ship registries, claims that it wants to ensure that all flag states maintain adequate control over the ships they’ve registered. But its delegates include representatives from industries with close ties to shipping and an interest in keeping freight costs down, such as oil companies, mining companies, and shipbuilders.



A ship ready for breaking in Chattogram, Bangladesh, in 2016. Photo by Katiekk/Shutterstock

Leaning on the levers of finance is one way to bring an end to unsafe shipbreaking. In 2018, the world’s largest sovereign wealth fund—Norway’s Government Pension Fund Global, also known as the Oil Fund—decided to divest from four companies that sell their ships for dismantling in South Asia. The country’s largest pension fund, Kommunal Landspensjonskasse (KLP), soon followed suit. Withholding capital from shipping companies because of their recycling practices, some advocates believe, could lead them to change. Lenders and insurers could also require in their agreements with ship owners that they properly recycle their assets.

Jenssen says the organization is now advocating for a return scheme for vessels, similar to the refund that some jurisdictions offer for recycling glass bottles. “All vessels trading in EU waters would chip in throughout their operational life, and that money would be paid back to the last owner, if the vessel is recycled in a proper facility,” she says.

The European Union recently put forth a proposed amendment to the WSR that would enable ships sailing under the flags of member countries to be recycled by shipbreakers outside the OECD, provided they appear on the EU list of approved facilities. Industry critics contend that currently, non-OECD shipbreakers are discouraged from applying for approval because the WSR would still forbid them from importing ships (though the Alang facilities' applications would argue against this). The amendment would obviate the need for reflagging for the final voyage. EU policymakers are expected to discuss the proposal in May.

In November 2021, Maersk became a founding member of the First Movers Coalition, formed by the World Economic Forum "to make purchasing commitments that create new demand for low carbon technologies." It was the latest in a string of public statements by major industry players late last year to show their commitment to decarbonize shipping by 2050. "We have high ambitions and we are fully committed to addressing the emissions in our operations," said Mikael Gutman, the head of APM Terminals, Maersk's port operations subsidiary, on October 18.

While the industry has been very public about efforts to limit its contribution to climate change, it continues to contribute to fouling the oceans and endangering the lives of people in developing countries where its ships are dismantled. The third quarter of 2021, during which at least the second conference of the year on decarbonizing shipping was held in Copenhagen, Denmark, saw seven deaths in Bangladesh's shipbreaking yards. While the industry might eventually make progress on reducing its carbon footprint, as long as flags of convenience and last-voyage flags prevail it will have a convenient means of evading the legal guardrails in place to direct it toward ethical operations.

Paul Tullis has written about science, the environment, commerce, and their intersections for the *New Yorker*, the *New York Times Magazine*, *Scientific American*, *Bloomberg Businessweek*, *National Geographic*, and others. He lives in Amsterdam, Netherlands.