NGO SHIPBREAKING PLATFORM

Submission to the Open Public Consultation on the EU Circular Economy Act

How ship recycling can boost circularity and contribute to European steel decarbonisation

BRUSSELS, 06 NOVEMBER 2025

ABOUT THE NGO SHIPBREAKING PLATFORM

The NGO Shipbreaking Platform is a global coalition of organisations working to reverse the environmental harm and human rights abuses caused by current shipbreaking practices and to ensure the safe and environmentally sound dismantling of end-of-life ships worldwide.

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We thank the European Commission for the opportunity to contribute to the forthcoming **Circular Economy Act**, which aims to enhance the EU's economic security and competitiveness while promoting sustainable production, circular business models, and decarbonisation.

With a significant number of ships expected to reach the end of their service life in the coming years, ship recycling[1] presents a strategic opportunity for Europe. Boosting domestic ship recycling will:

- secure a steady supply of secondary raw materials for the internal market and strengthen Europe's industrial resilience and strategic autonomy by reducing dependence on virgin raw materials;

- make a meaningful contribution to the decarbonisation of the EU steel and construction sectors, supporting Europe's broader climate and circular economy goals;

- create green jobs in the recycling and waste management sector;

- provide coherence with EU environmental policies aimed at preventing the export of hazardous materials from the EU and restrict exports of waste that have harmful environmental and health impacts in third countries.

[1] It should be understood that in "ship recycling" we include activities aiming at preventing waste as well as reuse and repair, in line with the 9R framework.

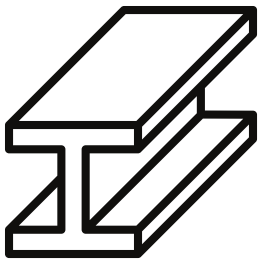
1

The EU shipping sector: a strategic asset for Europe's circular economy and industrial resilience

An untapped source of high-quality secondary raw material

The EU/EFTA-owned fleet is a strategic asset for trade, energy security, passenger transport, and global logistics. EU shipping companies control over 35% of the global fleet. However when these vessels reach end of life, the vast majority are sent to be dismantled on beaches in India, Bangladesh and Pakistan. Only 1% of EU-owned ships are recycled within the EU[2], meaning that valuable steel is lost to foreign markets: with up to 95% of a ship's weight that can be recovered as steel, end-of-life vessels present a major opportunity to support material circularity, particularly in steel and non-ferrous metals. Ship scrap steel is a raw material highly valued for its consistency and purity by the steel industry.

Several studies anticipate a sharp rise in end-of-life (EoL) vessels between 2025 and 2040, with projections suggesting that by 2033 the number of ships sent for dismantling could increase fivefold, significantly boosting the availability of high-quality scrap steel. EU/EFTA-owned vessels that will be heading for recycling in the coming decade represent **over 136 million tonnes of Light Displacement Tonnage (LDT)**, and, once processed, could yield more than 100 million tonnes of high-quality steel.



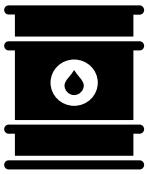
100 MILLION TONNES OF RECYCLED STEEL

FROM EU-OWNED SHIPS IN THE NEXT DECADE

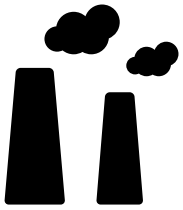
According to EUROFER's projections based on the expected transformations of the European steel industry in the coming decades, there will not be sufficient scrap available to cover the EU low-carbon steel production needs.

[2] Raimund Bleischwitz et al 2023 Environ. Res. Lett. 18 124034, *Ship recycling—estimating future stocks and readiness for green steel transformation.*

It is therefore crucial that the European economy strengthens its ability to retain and valorise steel from EoL vessels within the internal market in order to provide the steel sector with the high-grade scrap essential for low-emission steel production. Each tonne of EoL steel saves 1.5 tonnes of CO2 equivalent emissions. Moreover, using recycled steel saves 72% of the energy needed for primary production and reduces air pollution by 86%, water use by 40%, and water pollution by 76%.



72% LESS ENERGY USE



86% DROP IN AIR POLLUTION

40% WATER USE REDUCTION

76% WATER POLLUTION REDUCTION

There is furthermore a high potential for optimising ship recycling activities via automation and the creation of circular economy hubs, including increased competitiveness of cradle-to-cradle ship design as well as green steel production. In that regard, the EU taxonomy on sustainable activities represents a powerful tool to develop capacity for ship recycling and scrap-based steel production. Scrap steel input in the steel production has already been included as a manufacturing activity in compliance with the do no significant harm (DNSH) criteria for the objectives of climate change mitigation and adaptation. Further expansion is needed to ensure that the circular economy criteria not only follow the innovation path of low-carbon steel production technologies, but also take into account and connect them to regional sources of scrap steel, including from ships, and thus clearly identify ship recycling as a key sector to develop.

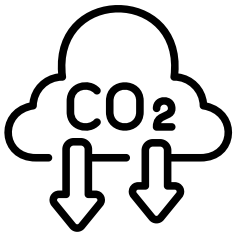
We urge the Commission to **explicitly recognize within the Circular Economy Act the EU-owned fleet as a material bank of high-quality steel, and ship-derived steel as a strategic source of secondary raw material**. Ship recycling should be explicitly recognised as an important circular activity that can significantly contribute to the decarbonisation of the EU steel, construction, maritime and related sectors.

Prioritising ecodesign and upcycling over recycling

While the maritime sector can provide secondary raw material for the decarbonisation of steel production, prioritising circular design and upcycling, through reuse, repair, and refurbishment, over mere recycling will stimulate additional cross-sectoral partnerships that increase the uptake and added value of ship steel. Lack of collaboration along the value chain is indeed one of the key obstacles to circularity and must be addressed.

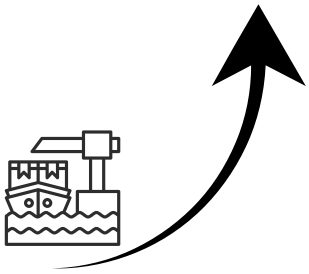
The Norwegian project Oppsirk has already demonstrated that direct re-use of ship steel can contribute to the decarbonisation of the construction sector, which is responsible for 37% of global emissions and urgently needs solutions to reduce its environmental impacts. In the Oppsirk project, high-grade ship steel plates are recertified and reintroduced directly into the market as zero-carbon construction-grade products.

Other projects focus on sustainable ship design and how to consider the future reusability of components as part of the initial design process. The TNO Department of Naval and Offshore Structures in Delft proposes a radical rethinking of the value of an end-of-life ship by assessing its functional value over the scrap value. This utilises the broad spectrum of the sustainability pyramid rather than relying solely on recycling by re-melting.



REDUCTION OF 1.5 TONNES OF CO2 EMISSIONS

IN COMPARISON WITH RAW STEEL PRODUCTION



5X MORE SHIPS SENT FOR DISMANTLING

IN 2033 COMPARED TO 2023

The Circular Economy Act should create a level playing field to ensure that these projects do not remain isolated examples, but instead inspire a wider wave of innovative circular solutions that can be scaled.

We urge the Commission to ensure the Circular Economy Act includes:

- **A clear prioritisation of design and upcycling practices that promotes reuse over recycling**. The 9R framework should be a guiding principle for EU policies and companies, thereby improving resource efficiency, reducing environmental and social impacts, enabling industrial synergies, and strengthening competitiveness.

- **An EU-wide definition of circular economy and circularity certification** to create a trustworthy and predictable commercial environment, enabling companies to confidently scale sustainable innovation.

2

Necessary measures to unlock the circular value of ship recycling

Enhanced product information transparency to facilitate the circulation of ship materials across industries

Material transparency is a critical enabler for circularity, safety, and economic efficiency in the ship recycling value chain. Today, the material certificates that are travelling with the ship at the beginning and during its operational life are often lost or discarded when delivering the vessels to the ship recycling yard. This information gap on steel quality, location and amount leads to:

- lower asset evaluation at EoL due to uncertainty in material quality;
- delays in dismantling and material separation process due to uncertainty in material type, quality and location on the vessel;
- lost opportunities for cross-sectoral reuse of high-value materials and components.

The EU Ship Recycling Regulation (SRR) already requires an Inventory of Hazardous Materials (IHM) for all ships calling at EU ports, detailing information on hazardous substances contained on ships. However, there is no similar requirement for non-hazardous materials, leading to a lack of data on high-quality and valuable components.

The concept of Material Passport was first developed to enable the shift to a circular building sector. By informing circular pathways, the recovery and reuse of components, products and materials become more effective as it becomes crucial to effectively select materials and products that later can be re-used. The Material Passport can be applied to the shipbuilding sector. The Horizon Europe–funded CirclesOfLife (COL) project is working on a blueprint for a **Ship Circular Material Passport**, which will track every material and component from design to dismantling, ensuring transparency, reuse, and safe recycling. A ship material passport aims to extend material lifespans, reduce waste, and optimise the reuse of high-quality steel. It is built following the attributes of Digital Product Passport (DPP) according to the Ecodesign for Sustainable Product Directive (ESPR).

Applying the Cradle-to-Cradle design concept, the ReCab Project, seeks to achieve maximum circularity in cruise cabin design. The C2C philosophy, inspired by nature's regenerative cycles, aims to eliminate waste by designing products whose materials can be continuously reused or recycled.

Developing a more granular EU-wide scrap classification and tracking systems will be crucial to ensure material integrity, transparency and therefore optimise material recovery and circularity.

We urge the European Commission to include in the CEA a clear **call to develop** :

- **A Ship Material Passport** to enhance product information transparency and facilitate the circulation of ship materials and components across industries. This passport could be established by including ships as a product group under the **Ecodesign for Sustainable Products Regulation (ESPR),** with robust criteria for durability, reparability, and toxic-free design.

- A more granular EU-wide scrap classification ensuring material integrity and transparency.

Ambitious lead market measures for EoL ships materials

Creating lead markets is essential to secure investment in clean and circular industrial products. The European Commission has made this a key priority in the upcoming Industrial Accelerator Act (IAA). But voluntary labels and measures will not be sufficient to create the clear and predictable signals industries need to invest in circularity.

When it comes to ship recycling, the construction sector can represent a key lead market for the direct reuse of scrap steel from ships, or for the use of recycled steel, as mentioned before.

We urge the European Commission to:

- **Establish mandatory circular public procurement targets in key public sectors** (such as building or public transport) in the upcoming revision of the Public Procurement Directives, including clear requirements to use sustainably recycled scrap steel originating from ships, in order to stimulate demand for secondary materials and support decarbonisation across GHG-intensive sectors.

- **Explore the introduction of minimum recycled steel contents in lead markets such as construction products** to create demand for high-quality scrap steel.

Strong circularity incentives for the maritime sector

Introducing economic incentives, including fiscal and public procurement policies, will be crucial to make circular design and material recovery more economically attractive. The maritime sector must be fully integrated to the broader green and circular transformation currently underway across European industries.

Targeted incentives to boost circularity practices in shipbuilding, maintenance, and recycling should be aligned with financial aid for the shipping sector.

Among the financial subsidies for the shipping sector, the tonnage tax regime remains one of the most significant support mechanisms for shipowners, yet it is largely disconnected from sustainability and circularity objectives.

Given record industry profits, it is increasingly hard to justify the shipping sector's continued exemptions from most tax categories, while simultaneously benefiting from flags of convenience registries in a 'race to the bottom' that prioritises the cheapest and lowest standards, such as the use of intertidal beaches for shipbreaking.

To streamline the EU's Maritime State Aid guidelines with other EU flagship strategies, such as the Green Deal, Circular Economy Action Plan, Fit for 55, and EU ship recycling policies, eligibility for tonnage tax should be linked to clear sustainability conditions, such as:

- Maintaining a genuine flag link throughout the ship's lifetime,
- Using EU-approved recycling facilities at end-of-life[3].

Additionally, circular incentives for the maritime sector should focus on eliminating and substituting hazardous materials embedded in ship structures. Ship recyclers currently face a wide range of hazardous wastes. Although the EU Ship Recycling Regulation requires shipowners to have an Inventory of Hazardous Materials (IHM), these inventories can be inaccurate or underreported due to the high costs associated with disposal. To address this, and while more effective Port State Controls and transparency on IHM needs to be ensured, toxic-free ship design should be promoted and linked to existing shipping subsidy schemes, ensuring alignment with the Substitution Principle and Cradle-to-Cradle design.

To effectively translate the new Circular Economy Act into the maritime and ship recycling domain, the Act should:

- **Include a strong action to revise financial aid measures for the shipping sector, aligning them with circularity obligations.** Call for a revision of tax exemptions, such as the tonnage tax regime, to link it to clear accountability and circularity criteria, including recycling vessels exclusively at EU-approved facilities at EoL.

- **Introduce a ship recycling return scheme** whereby all vessels calling at EU ports, regardless of flag, contribute to a ship recycling licence. Funds collected would be earmarked for the vessel's EoL management, helping to reduce the cost gap between substandard and sustainable ship recycling, and any forfeited funds could support R&D and capacity-building initiatives in environmentally sound ship recycling. This scheme would internalise environmental costs across the vessel's lifecycle and incentivise the use of EU-approved recycling facilities. It could furthermore be determined on the amounts of hazardous materials on-board, rewarding cleaner ships.

[3] It is worth noting that the EU taxonomy on sustainable activities' endorsement of greener shipbuilding to support lower emission shipping already establishes as do no significant harm (DNSH) criteria for the circular economy objective the use of an EU approved facility when disposing a vessel as a result of it being replaced by a lower emission ship.

Scaling up circular innovations

Our economy must move beyond risk-based assessments and reductionist thinking towards a resilient and restorative model, where private and public sectors generate positive impacts by creating and regenerating resources while using fewer inputs. This transition will only be possible through investment in natural systems design and holistic approaches.

Above-mentioned projects such as CirclesOfLife or Oppsirk, or companies such as Damen are already pioneering circularity in the maritime sector and exploring innovative approaches to enable the preservation of material quality and value. To fully unlock the potential of high-quality scrap steel from ships, the European Union must continue to invest in research, scale up these models, and foster cross-sector collaboration, ensuring that such circular solutions become the industry standard.

We call on the European Commission to include in the Circular Economy Act:

- **A clear commitment to boost funding programmes such as LIFE, the Innovation Fund, and coordinating with the EIB initiatives to accelerate the development of new circular business models and cross-industry synergies.** Explicit support is needed for the creation of industrial symbioses and regional circular hubs, positioning ship recycling as a catalyst for collaboration between the shipping, construction, and steel sectors to maximise reuse of high-quality materials and cut carbon-intensive production.

- **A call to expand funding for R&D projects under the Horizon Europe programme and EU Innovation Fund, prioritising innovation that advances material recovery and strengthens the competitiveness of the European circular economy.** This funding should also prioritise projects focused on developing and applying alternative, non-toxic materials for ship design and construction, as well as initiatives aimed at optimising ship recycling activities via automation and the creation of circular economy hubs.

3

Closing the legal loopholes to end Europe's export of wastes that have harmful environmental and health impacts in third countries

Enhanced product information transparency to facilitate the circulation of ship materials across industries

While vessels contain high quality steel and are dismantled to recover this valuable secondary raw material, EoL ships are hazardous waste and must be treated as such. Once the decision to dismantle is made, a ship becomes waste that contains various toxic materials that need to be properly located, identified, removed, and safely disposed of. The structure of the vessel can contain asbestos, PCBs and heavy metals, while the hull steel is typically coated with anti-corrosion and antifouling paints, some of which may contain hazardous substances such as lead or cadmium. During recycling, materials like asbestos and toxic paints must be carefully removed. Certain coating components can evaporate, oxidise, or dissolve during steel melting, making effective dust capture and pollution control systems essential. Controlling the dispersion of paint chips and toxic emissions, both during dismantling and steel processing, is critical to safeguarding human health and the environment.

Yet, every year, more than 90% of the global tonnage is dismantled on only three beaches, in India, Bangladesh and Pakistan, under conditions that cause irreparable damage to sensitive coastal ecosystems, local communities and workers' health. On these beaches, there is a lack of proper waste reception facilities, adequate training for workers, and cooperation from ship owners to provide the necessary information on toxic materials in the ship. **One third of the EoL ships beached in South Asia are EU/EFTA-owned**.

Successful prosecutions and investigations in Europe are confirming that illegal shipbreaking is a serious environmental crime, and are sending a strong signal to European shipping companies. However, many EU/EFTA-owned vessels continue to be scrapped in substandard yards due to widespread out-flagging practices to

avoid the EU Ship Recycling Regulation (EU SRR), or through fraudulent claims of further operational use to circumvent the waste export restrictions under the EU Waste Shipment Regulation (EU WSR). As a consequence, only 1% of EU-owned ships are currently recycled within the EU.

The EU Commission evaluation report of the EU SRR clearly identifies the practice of re-flagging as the main cause undermining the efficiency of the regulation. **By closing existing legal loopholes and more effectively holding EU shipping companies accountable, the EU can stop exporting risk and environmental damage to third countries**, while setting a global benchmark for responsible ship dismantling and recycling.

OVER 35% OF THE GLOBAL FLEET

IS CONTROLLED BY EU-BASED SHIPPING COMPANIES

YET ONLY 1%

IS RECYCLED IN THE EU FACILITIES

We urge the Commission to make certain that the Circular Economy Act includes:

- **A firm demand to fully enshrine the Polluter Pays Principle within EU ship recycling policies**: shipowners must be held fully accountable for the safe recycling of their vessels, and effective measures must be put in place to prevent EU ship owners from dumping hazardous waste on third countries.

- **A decisive action to close legal and enforcement loopholes on EoL ship exports**. Effective enforcement requires extending the responsibility to those who control vessels and may exploit regulatory loopholes. This would mean expanding the regulatory scope of the EU Waste Shipment Regulation and EU Ship Recycling Regulation to include beneficial ownership of vessels, and recognise flag-swapping as a practice intended to evade EU ship recycling rules and covered by the Environmental Crimes Directive.

- **Ensure ship-derived steel is not classified as "end-of-waste" unless it has been properly** cleaned and is free of hazardous substances.

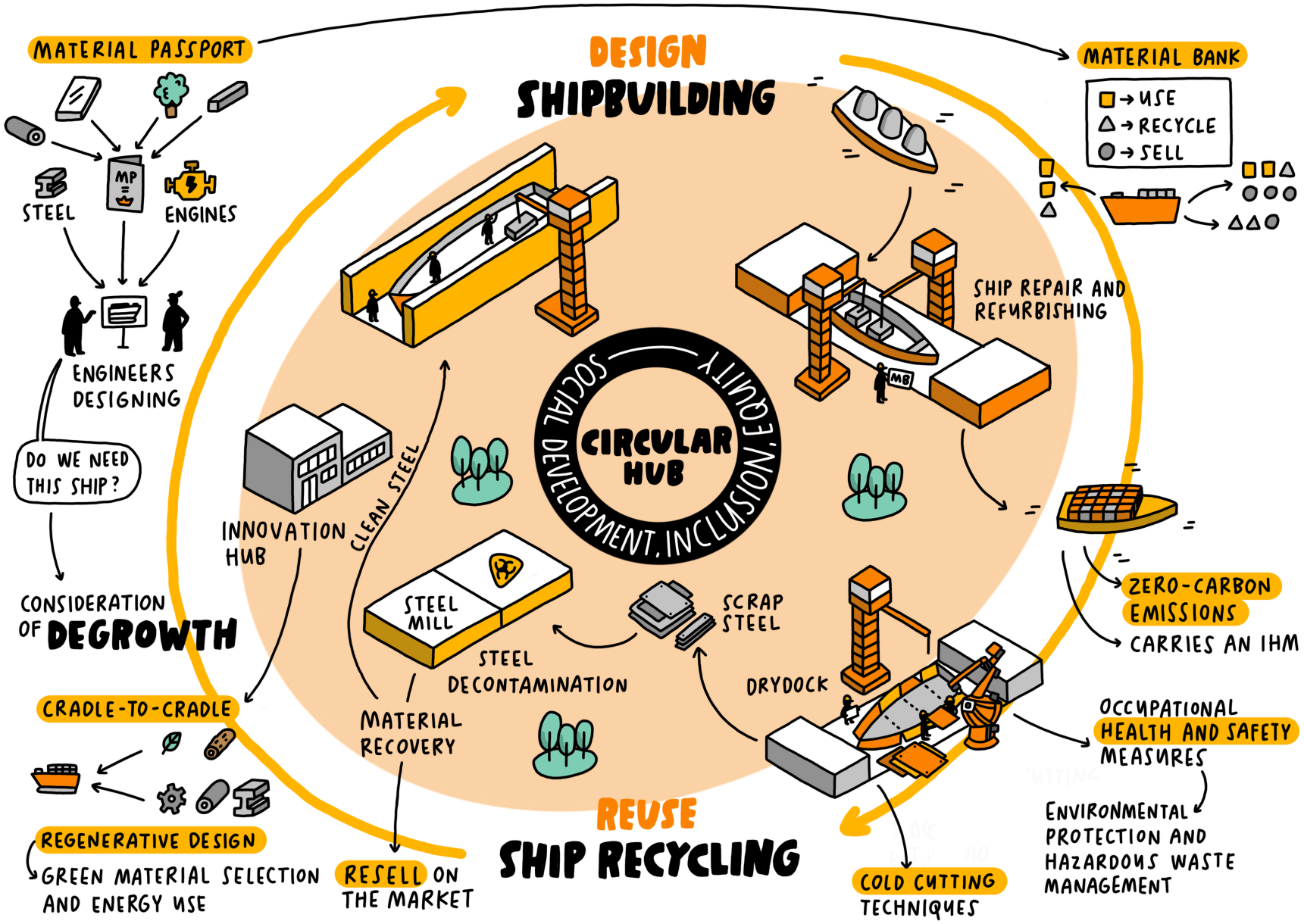
Bearing in mind that the EU shipping companies control over 35% of the global fleet, and that by 2033 the number of ships sent for dismantling could increase fivefold, the EU-owned fleet should be considered a crucial material bank of high-quality steel, which could secure a steady supply of secondary raw materials for the internal market, and make a significant contribution to the decarbonisation of the EU steel and construction sectors.

We call on the European Commission to recognize the strategic role of ship recycling in achieving circularity of the EU economy, and to include the proposed measures to unlock this potential in the Circular Economy Act. This will not only contribute to the EU strategic autonomy, competitiveness and environmental objectives, but will also be a crucial step to end Europe's export of harmful waste to third countries.

Additional resources:

Scrap steel at sea: How ship recycling can decarbonise European steel production

Breaking Out: Anchoring circular innovation for ship recycling



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