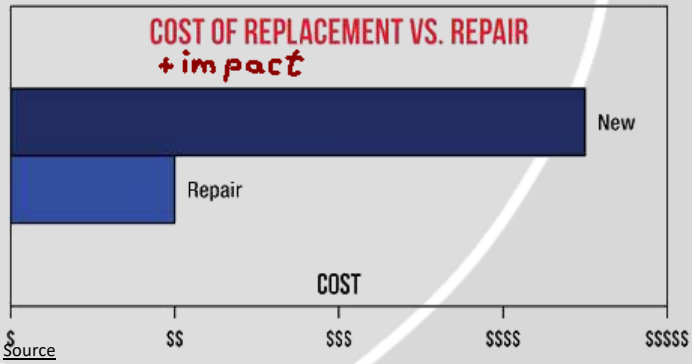
Is newer always better?

The climate crisis is the biggest challenge mankind faces since its existence. Since decades this scenario has been forecasted and discussed exhaustively, far too little has happened. We´ve never been closer to “point of no return” and shipping as one of the big emitters has to be part of the change. Overreacting has never solved a problem. Is new tonnage providing the required change?

Forecasts see many ships heading for recycling due to emissions reduction efforts and the goal to have a CO_2-neutral shipping industry by 2050. History repeats itself here, same had been said in regards to phasing out of single-hull tankers, ballast water requirements, and many more, but very few ships have been recycled.

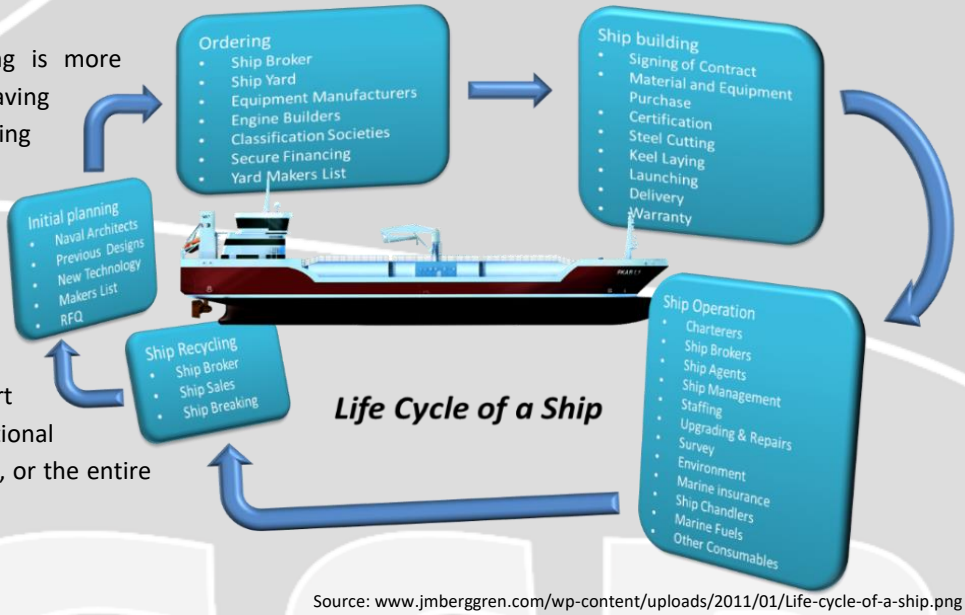
If more existing ships will be recycled they need to be replaced with new ships for ensuring sufficient transport capacities. While new ships are generally considered more environmentally friendly and efficient, the question is “compared to what”? Many different approaches show positive results when looking at emissions per ton-mile, daily fuel consumption, fuel used and so on.



Source

What is the overall equation? Will renewal of the global fleet bring the required change or is repairing and extending the life-cycle of ships more environmentally friendly than building new ones?

In many cases repairing is more sustainable and saving resources than purchasing new. This has been ignored more and more in the last decades and one-way products including components are the norm. If a small part breaks the whole functional unit is replaced as a unit, or the entire product becomes waste.



Source: www.jmberggren.com/wp-content/uploads/2011/01/Life-cycle-of-a-ship.png

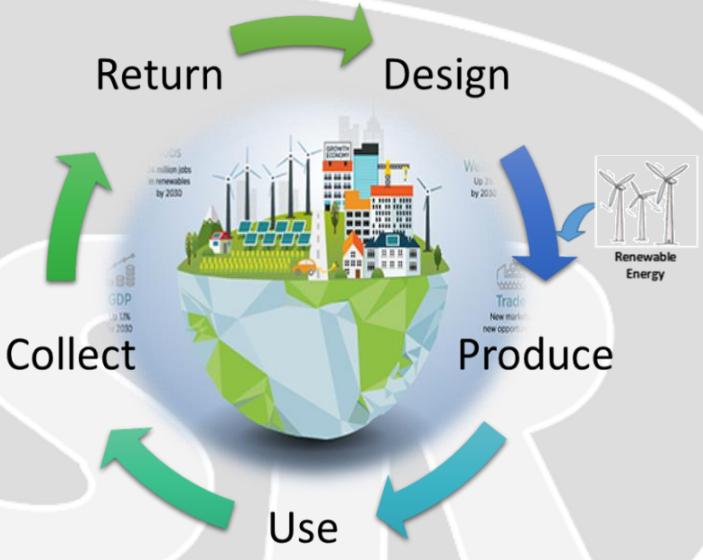
Engineering should and can do better than this. What has been produced has already caused damage in form of consumption of resources and energy, emissions, and so on. Since years a heated discussion around e-cars goes on and claiming emission-free transportation in most cases is not true. Producing the required energy causes emissions, unless only regenerative sources are used, but solar panels, wind turbines etc. had to be produced before as well. Additionally, a lot of resources, including rare scarce materials and energy is required for producing a new e-car. How long can one drive an existing car compared to the impact a new e-car provides until it hit the roads?

Source: https://www.cometdelivery.com/services/international

Compared to a car, much more energy is required for building a ship. Raw materials are to be excavated for getting the materials required for manufacturing components, equipment, the hull and many other products in huge quantities. Those need to be transported from somewhere to the shipyard. A lot of steel is required which then is to be connected by kilometres of welding lines. Most of us know how it smells and then the paintjob comes on top. Not all is CO_2 or other gaseous emissions, there are many more which must not be forgotten. Light, noise, liquids and solids, not to forget the wastes produced during ship construction. Should all these be added to shippings´ carbon footprint as well? If we aim for a proper equation the answer can only be “yes”!

What is the lesson learned here? Most of what we do causes disturbance and emissions, we´re still far away from an environmentally harmless economy and style of living. When we want to change for the better and most urgently protecting the climate, we need to consider the whole lot including how and what we produce. Awareness by consumers is required as their demands are to be met by production. Alternatively, if production changes, the consumers can only get such products. A limited view on e.g. alternative fuels poses the risk that we will only look at what comes out of the funnel but miss the fundamental change needed throughout on the ground. This approach is reflected by the Corporate Sustainability Reporting Directive (CSRD) which requires as a core aspect the Double Materiality Assessment. A new understanding of existing perspectives - which evokes action to reaction. The focus is on the relationship between both, a company and their processes creating an impact (materiality) on its environment. The environment will eventually be influenced by impacts and changes thereto which then results in effects on the company’s situations and potentially financials. Being able to see a bigger and more thoughtful picture will help make wiser and more sustainable decisions. At the end of the day, it is about avoiding practices and changes that will end up inciting negative impacts.

As per the exemplary subject, for sure ships have a long life span and “eco new buildings” have some positive effects, but what about the full context? When evaluated properly and if the outcome is positive, only then sending more ships to recycling yards can be a good and viable option for fighting the climate crisis. Of course, the recycling yards need to be the proper ones which can handle the ships and all materials in a safe and environmentally sound manner. Otherwise, the whole initiative misses the fundamentals it is based on and more resources are wasted.



The full scope for measuring and reducing the impact of human activities can be found in the principles of Cradle to Cradle (C2C) which has to start with a product-specific Life-Cycle-Assessments which can be supported by documents such as Full Material Declarations (FMD) or Material Passes, both of which play their roles in sustainability and the circularity of products to lead the way towards a circular economy. C2C reaches from product design, material selection, wastes, emissions, and production via usage of products to collection and segregation of materials for returning those as “technical nutrients” fully for producing new products. That´s a complex endeavour as during product design the full circle needs to be considered. Also developing and managing related information for all involved is an important aspect, otherwise it can´t work. Interdisciplinary exchange and action are required to change habits, products, and markets.

Talking about changes, these coming years require looking ahead to more sustainable decisions and processes, as established regulations are thickening their skins and new regulations are on the verge of arriving. The hurry to have a CO_2-neutral shipping industry by 2050 might come from the set of proposals made by the European Commission which emerged into the European Green Deal and its goal to be a climate-neutral continent by the same year. Isn't it obvious that we cannot build up new and more sustainable ships switching the whole shipping industry in just a few decades without having to deal with the consequences and impacts that higher production and retiring older ships will have? The EU Green Deal has already settled a classification system for sustainable economic activities such as C2C under the EU Taxonomy. Companies will need to report about their operations as well as new initiatives in terms of enhancing Environment, Social, and Governance (ESG) aspects by following the CSRD requirements. To transparently corroborate the sustainability performance and planned progress towards more sustainable practices which align with the sustainability goals. This requires good preparedness and gathering a lot of data. Starting with where we are, and investigating what actions are required to become more sustainable and responsible, the required actions can be identified, proper planning decreases efforts, costs and environmental footprint of the business activities.

Better not only looking at the funnel but to broaden the view. We at GSR have investigated all fundamentals, gathered expertise and developed solution for developing individual roadmaps. With this a positive impact and transparent reporting which efficiently fulfils the new expectations and requirements has become available.

It is time to join hands and bring different knowledge together to ease the way and successfully achieve a better future. Let's be more responsible together; for us, future generations and our home we call Earth.