

Sustainability, The New Trend of Superyacht Interiors

Superyachts have long been a sign of wealth and status for the world's elite. They have also been a reminder of disregard for the environment. From enormous fuel consumption to poor pollution control, these luxury vessels are certainly notorious for their impact. However, over the years more and more owners have become conscientious about the lasting damage that their yachts may be doing to marine ecosystems. As such, there has been an increasing focus on streamlining hulls, improving power plants, and saving power.

One aspect of this growth in environmental concern over the past few years is sustainable interior design. While not often thought of as a major issue in terms of environmental-friendliness, the interiors are where the passengers eat, sleep, and relax while at sea. As such, they can be major problem areas for wastage. Using modern design principles, new technologies, and environmentally-conscious material sourcing, designers are constantly improving the sustainability of interiors. Furthermore, owners are now seeking yachts that will allow them to cruise in luxury without the burden of such significant environmental impact.

The First PYC Compliant Superyacht: Oceano's Equanimity

One of the ways superyachts are becoming more sustainable is through adherence to stricter regulations such as the Passenger Yacht Code (PYC). In mid-2014, Netherlands-based builder Oceano delivered the Equanimity, an enormous 91.5 meter superyacht.ⁱ It is billed as the first superyacht to be built compliant with PYC, which ensures not only safety but also greater sustainability. This notably allows the vessel to carry more passengers than would typically be allowed, but also requires significantly more safety equipment be available to the crew and passengers of the vessel.

From a sustainability perspective, the PYC requires significant attention be paid to the potential damage a superyacht can cause to the environment, particularly in the event of an emergency. For example, it requires superior fire safety so that fires can be easily contained. These measures make the vessel both be safer for the passengers but also prevents pollution and harm to the marine environment in the event of a severe fire.ⁱⁱ

Similarly, the PYC adds regulations for the number of crew necessary and the level of training and competency required in order to safely operate the vessel. This is in part intended to prevent accidental pollution of ocean waters due to the mishandling of power plants and fuel.ⁱⁱⁱ Even the structure of the vessel is addressed in the code, requiring the usage of more efficient designs and materials.^{iv} As such, through PYC compliance can represent significantly increased investment into the yacht, it greatly reduces the possible damage to the environment.

Modern Technologies for Sustainable Interiors and Glass

In order to achieve a higher standard of environmentally conscious interior design a number of technologies are being leveraged by shipbuilders and designers. For example, lighter weight materials are becoming increasingly popular because they reduce the energy consumption for moving the vessel. Carbon fiber and titanium in particular are popular alternatives to steel for the hull and deck structure^v. Opting for these reduces the weight of the vessel without compromising strength. One study of a recently-completed superyacht revealed a roughly 20% fuel saving from the use of carbon fiber over conventional materials such as aluminum and steel^{vi}.

Additionally, the popularity of glass in design has risen over the years, and as such so has the need for more advanced technology in order to address its relatively poor insulating properties. Fortunately, in recent years thermal reflecting glass has become increasingly available, allowing yachts to remain easily cool even in the warmest climates.

Another major change in glass has been the rise of restoration services. While glass has historically been bound for the landfill when needing repair, it can now be restored in order to look like new without having to be replaced.^{vii} This is a win for both the owner's wallet and for the environment.

Case Study in Green Superyacht Interior Design: Kingship's Green Voyager

One great sustainable superyacht example is the Green Voyager built by Kingship Marine and the Axis Group. From the shape of the hull to the propulsion systems, it was designed to cater to owners who want to experience luxury without the enormous carbon footprint of traditional superyachts. Kingship built the yacht to achieve the platinum level of Green Star Plus,^{viii} the highest level of RINA's environment accreditation.

The interior of the ship features significant usage of sustainable materials such as bamboo rather than more traditional options such as Burmese teak.^{ix} Similarly the upholstery is made from natural fabrics with environmentally-friendly production processes.^x



Figure 1: Green Voyager

To ensure a more efficient operation for the ship's climate control systems, Kingship used thermal reflecting glass that protects the vessel from heat radiation.^{xi} This allows for a significant reduction in the amount of energy required to operate air-conditioning in warm climates, a traditional issue for superyachts.

The Green Voyager has served as a point of reference in China's superyacht industry. Its focus has shifted significantly towards being eco-conscious both in the process of creating vessels as well as the materials and systems used in them.

Case Study of the First RINA Green Star Certificate Recipient: Tribu

Another truly impressive superyacht is the Tribu built by Mondo Marine. It is a 50 meter expedition vessel that is the first to receive Green Star certification from RINA.^{xii} Built for Luciano Benetton, the design and build process was entirely centered on sustainability. The vessel features bilge water separation and filtration, and an advanced water ballast management system. Additionally, the materials for the ship are all sustainably sourced.



Figure 2: Tribu

One major benefit of compliance with stricter green regulations is that vessels such as the Tribu are typically freer to move into environmentally-sensitive areas such as Antarctica.^{xiii} Thanks to a focus on sustainability both while in construction and during operation, Tribu is a testament to the possibility of combining luxury with responsibility.

Other Case Studies: Hybrid Propulsion Systems & Natural Lighting

We've surveyed a number of superyachts that serve as examples of sustainable design, but there are many others. Columbus Yachts, for example, has won multiple awards in 2014 for their 40 S Hybrid. The awards recognized their work on sustainable methods ranging from hull design to interiors. However, the most notable was the award for their vessels' hybrid propulsion system which greatly reduces the impact of their yacht's power plants.

Beyond this, however, their interiors are being designed specifically to reflect the overall emphasis on the environment. This includes the use of significant natural light, as well as warm, reflective colors and sustainable materials.^{xiv}

Another vessel to garner significant attention on the award circuit was the M/Y Entourage. This yacht received the RINA Green Plus Yacht Award because her construction was done strictly within the environmental standards set by RINA. One of the most notable elements of the ship's interior is the substantial use of natural light in order to illuminate the interior.^{xv} The designers used various innovative techniques to reduce the amount of artificial light required to operate the vessel, and as such, these designs reduce the ship's fuel consumption.

Conclusion

Thanks to the rise of new technologies and design principles, ship builders are now able to create environmentally-conscious superyachts. As owners seek luxury with a greater regard for the earth, more and more interiors are being created with sustainably-sourced materials, energy efficiency, and lower fuel consumption. Hopefully we will continue to see yacht designers coming up with creative ways to help make luxury ships and their interiors more environmentally friendly.

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