

SUPERYACHT DESIGN

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DESIGN DEBATE

Whether it is RINA Green Star certification, Carbon Offsets or synthetic teak decking, the superyacht industry is under increasing pressure to be seen to be green. Design Debate canvases the opinions of designers and manufacturers working in the industry.



Colin Addley
Greenline Yacht Interiors

Information on the environment is of increasing importance, not only in the construction and classification of large yachts, but industries worldwide. We are very conscious of this and are effectively commencing within the company the Greenline 'Go Green' initiative to positively seek all ways and avenues to be up-to-date on the leading-edge technology of being environment-friendly. GLYI is an interior outfitter and not a designer, therefore we cannot influence the initial selection of materials, but we can and will always propose alternatives whereby we can achieve the function and aesthetic appearance of the materials selected by utilising an environment-friendly material. This is not always possible when the designer insists on using natural materials and unwilling to consider alternative materials. But we believe that in due time the trend will be to find alternative solutions, and we are actively participating and searching for such alternatives.

Thibault Tincelin
Stirling Design

We used to integrate at an early stage issues such as weight, stability and performance aspects in our design. Now, we have to integrate this additional aspect: what will be the environmental impact of our design through its lifecycle, and what can I do to reduce it?

To cope with this new scheme we have developed with environmental experts a dedicated software suite, SIMAPRO, to estimate the impact of the yacht. This tool can estimate the carbon offset (greenhouse gases) of the design, but additionally this SSD software (for 'Sustainable Ship Design') allows us to estimate ozone-depleting substances (NOx, SOx), as well as water, energy consumption and waste generation. These impacts are evaluated for each phase of the design: construction, operation and dismantling of the vessel.

This analysis is of major importance to assess the major aspects affecting the environment. Should I, for instance, work on light material selection, engine emission reduction, etc. And such a tool is of great assistance in qualifying for Green Plus Yacht certification from RINA, for example.

David Jensen
Jensen Interiors

We believe the future of superyachting has to be aligned to the green agenda, hence our involvement with the Soliloquy project, the much-publicised recent design concept for a super-green superyacht from Callender Designs. Many of the world's superyachts are owned by corporate heads who have to declare their organisation's green credentials in their annual reports to investors and the media - so arriving in port in a gas-guzzling, ear-shattering, fume-belching monster is hypocritical in the extreme. Our ethos is "no halfway house" - or yacht! If we go green we take that principle to the limit and propose only organic, ethically-sourced, sustainable and recyclable materials wherever possible.

Protection of the environment is of increasing importance in the construction, classification and operation of large yachts. How is this trend affecting your work?

Dickie Bannenberg
Bannenberg and Rowell

It hasn't affected us directly, but I think we should be completely switched on to environmental issues in our work.

Maela Lenci
Lenci Marine

I'm seriously concerned about the sustainability issue and always apply these concerns to my work whenever it coincides with a client's wishes. For some years I've been pushing to introduce a pilot scheme for the conversion of commercial tug into a yacht and the project focuses on state-of-the-art sustainability and energy saving. Recycling a tug according to these principles is an excellent example of sustainability in the marine sector, because one of the main characteristics of this kind of workboat is its low fuel consumption. Moreover, by re-using the steel hull we avoid the further CO₂ emissions involved in building a new one. Green Star certification is a good start, but I also take care to work with ecological materials for the interior design by limiting toxic adhesives and favouring safe, natural materials with low ecological impact.

Jonny Horsfield
H2 Yacht Design

There is no doubt that the subject of the environment can no longer be ignored as some clients are now genuinely concerned about the subject in general, as well as (no doubt) their perceived image to the outside world and their desire to appear less proliferate. But to answer the question, I would say that no, it is not really affecting our work yet. Most initial discussions appear to revolve around technical issues such as alternative fuels and generation of electricity, as well as efficient and sensitive waste disposal of course. We should achieve zero emissions to power plant sooner rather than later, and I think all owners would love to be able to switch off their hotel generators at night and rely on solar-generated electricity for instance.

Colin Addley
Greenline Yacht Interiors

The superyacht industry is becoming very aware of 'green' issues, as many recent major editorials have indicated. The designers play a major role as they have to be aware of the alternatives that can assist in this process. We are all duty-bound to educate ourselves, and each other, in this regard for the benefit of the environment.

Thibault Tincelin
Stirling Design

Steel and aluminium are great structural materials from a recycling point of view, but when working on a commercial or recreational motor vessel, weight is the key factor. This is the reason why, in many cases, composite materials using carbon fibre are more sustainable from a carbon footprint point of view than steel or aluminium. The balance between aluminium and glass fibre is often challenging for mid-size vessels (30-60 metres).

For interiors, aluminium honeycomb and foam composite are of major interest for bulkheads and lining, as well as new-generation mineral wool for insulation. Close project development in this green process with a large network of suppliers is required to end up with a significant reduction in the overall environmental impact of the yacht.

David Jensen
Jensen Interiors

For the interior design of the Soliloquy project we have proposed numerous environmentally-friendly materials, such as bamboo, coconut shell and palm wood, post-industrial polyester, Kvadrat wool and hemp fibre, among others. Part of the commitment to green design is designing without waste and looking at the longevity of the material and its potential for re-use. Other factors include the energy embodiment of the material and the carbon footprint of transportation.

We have not yet proved the point that eco-friendly interiors are no longer an oxymoron in the superyacht world, but I think we have started to demonstrate that they might not be. In launching our Soliloquy interior design concept at the Monaco Yacht Show we wanted to provoke debate, encourage exploration and promote product development. We've proved you can cut weight as well as find eco-friendly materials that will work in a marine environment. However, testing these against stringent marine fire regulations would be the next step, so we don't claim to have cracked it yet.

What kind of new "green" materials suitable for interior or exterior applications are you researching or working with?

Dickie Bannenberg
Bannenberg and Rowell

We have worked with several new products. On our 45-metre Timmerman, interior built by Sinnex, we used a reformed veneer as a substitute for rosewood. On our 85-metre project at Lurssen, we have made extensive use of fast growing cane and grass products, which are both textural and beautiful.

Maela Lenci
Lenci Marine

I've discovered many materials in the field of bio-architecture that can be utilised in the marine sector, from FSC-certified exotic timbers to anti-mould processes and waterproofing oil treatments for wood destined for exterior use. I've also researched into accessories made from recycled materials that are both beautiful and appropriate for use aboard yachts.

Jonny Horsfield
H2 Yacht Design

We are not currently directly involved in researching/developing sustainable materials. If there is demand for these products then suppliers will start developing these materials on our behalf.

Colin Addley
Greenline Yacht Interiors

Synthetic alternatives have come a long way from the people's concept of 'Plastic Materials'. Many synthetic materials can hardly be distinguished from the original in touch, colour or fitness for purpose. Many synthetic alternatives with distinctive properties similar to the natural product are now available, and this is a field that we are really looking into, to seek the best utilisation of synthetic alternatives, working closely with Designers & Owners. We at GLYI are seriously working with our suppliers to educate ourselves on the availability of materials of this nature, so that we can introduce these materials that may not be widely acclaimed due to their relatively new appearance in the market.

Thibault Tincelin
Stirling Design

The last generation of synthetic teak are very promising since their thickness and density is much less than the traditional 22mm-thick teak planks. Many suppliers have developed laminates for interior and exterior with impressive finish and long-life expectancy.

David Jensen
Jensen Interiors

Reconstituted leather is not yet of a quality or appearance to be viable in our opinion. The samples we have seen resembles cheap vinyl, but since leather comes from animals slaughtered for food we don't view the use of leather as contradictory to our mission: indeed, we are optimising the resource available. There are outstanding recyclable alternatives to teak now, which have an identical appearance to the real thing, but are renewable and recyclable.

What is your opinion of synthetic or recycled alternatives to natural - and possibly rare - materials such as teak, exotic leathers, etc?

Dickie Bannenberg
Bannenberg and Rowell

I am waiting for the first client to take the plunge and dispense with teak decking. It can't be far away and is only a mindset issue, rather than driven by technical reasons. Products like Esthec are surely the way forward and are already in use in technical areas and tender garages on yachts from the leading European yards. There are plenty of great looking leathers and synthetics, which don't involve the death of reptiles and rays and we're entirely happy using them.

Maela Lenci
Lenci Marine

I've come across a company producing an excellent teak substitute that also has better technical characteristics than the wood itself. Sustainability is a question of balancing the use of natural materials, the re-use of existing materials and the use of long-lasting synthetic materials. This has not been properly achieved to date.

Jonny Horsfield
H2 Yacht Design

To be honest, you do not have to be a yacht designer to be concerned about the use of rare/irreplaceable materials and I would not feel comfortable using this type of material even for the interior of a superyacht. As an example, we are contacted on a regular basis by suppliers selling what they claim are extremely rare wood veneers, but we ignore them. We all use tonnes of rare marbles throughout yachts, but we are increasingly reducing the quantities to save weight, which also has an obvious [beneficial] side effect. I see in the long term a move towards synthetic or reconstituted teak.

Colin Addley
Greenline Yacht Interiors

The superyacht industry is becoming very aware of "green" issues, as many recent major editorials have indicated. The designers play a major role as they have to be aware of the alternatives that can assist in this process. We are all duty-bound to educate ourselves, and each other, in this regard for the benefit of the environment.

Thibault Tincelin
Stirling Design

Owners in close conjunction with designers have the prime responsibility for the project they are developing. The superyacht industry is very similar to the commercial shipbuilding industry in that it is based on performance, cost and weight challenges. Most designs do not integrate the environmental aspect as one of the starting points of the project.

We learn everyday from land-based architecture that the marine industry is ten years behind in terms of the environmental R&D of their products. There is a lot to be done to develop a new generation of yachts with different aesthetics, different operational profiles, different materials and performances, but at the same time that are in line with the lifestyles of the owners.

David Jensen
Jensen Interiors

From here on, the role of the designer is pivotal. By proposing "green" solutions to commissioning owners at the outset – or at refit time - and explaining that, for instance, marble dining tables are no longer 'de rigueur', let alone desirable or necessary, it is possible to set the agenda for a new approach to superyacht interiors. We have to convince owners that the green agenda is not in conflict with their desire for originality, unique designs and uber-luxury. Ultimately, I would not be surprised if international legislation forced the issue on those owners or yards that remain reluctant.

Is the superyacht industry doing enough to safeguard the environment and what role should designers play in the process?

Dickie Bannenberg
Bannenberg and Rowell

The industry is not in a position of strength to lecture anyone on environmental issues and if I try any green sermonising with my friends, it takes them perhaps a second-and-a-half to casually ask about fuel consumption, teak decks and lavish interiors and halt me in my tracks. But I think we must do what we can. Building to environmental classification strikes me as a no-brainer. We would like to work more closely with interior subcontractors about sourcing of materials. I got an email some months back from a renowned furniture manufacturer excitedly telling me about a cache of macassar ebony – possibly the last remaining of that size and grade - that they had secured. It was somehow rather depressing, but until we stop designing pieces using timbers like that, I'm not in a position to complain. There's work going on with better paints. MARPOL and sewage regulations are being tightened. It's all heading in the right direction, but I think needs to be constantly kept in people's minds. Maybe a crewmember could be designated Environmental Officer, or have something similar within the build team. The SeaKeepers initiative is good, and I think companies can do their own internal stuff – recycling, offsetting, ruthless control of the photocopier - without the need to use it as a marketing angle.

Maela Lenci
Lenci Marine

Designers and architects are the first link in the chain as far as innovation and trend development is concerned. I believe we have first responsibility for highlighting the environmental issues involved in each new project. Our job is to propose innovative solutions – what better way to do just that than help conserve the environment?

Jonny Horsfield
H2 Yacht Design

This is difficult to answer! I suspect, like many, that the actual physical impact on the environment from yachting is actually minuscule. However, like KERS power reclamation in Formula One, or not having your towels cleaned everyday in the hotel, we have to be seen to be doing something and make every effort to reduce our impact on the environment before we are forced to do so by governments. There are, undoubtedly, some clients who like the idea of being a pioneer in this subject, but I suspect the sailing yachts will adapt a little quicker than motoryachts.

Colin Addley
Greenline Yacht Interiors

To be honest it rarely spurs up as a topic of discussion. But with the Designers we are all much more aware of the importance of this matter and are conscientious to increasing such discussions.

Thibault Tincelin
Stirling Design

Most of the time, environmental topics are discussed with owners in a second phase after the aesthetic, technological and economical aspects of the project. But some owners come to us with the environmental impact of their future project as a prime input. This raises very interesting challenges! There are also strong expectations from specific owners, ship operators and state authorities who come to us with ambitious requirements in terms of the environmental impacts of their future vessel. Individual technological and architectural solutions exist in other industrial and engineering fields. Some of them still need to be adapted to the very specific constraints of a luxury seagoing yacht, but a lot can be done right away.

David Jensen
Jensen Interiors

It is our starting point, so the first item on the agenda.

Is protection of the environment a topic discussed in your meetings with clients?

Dickie Bannenberg
Bannenberg and Rowell

Yes. On our recently delivered 60-metre project at Abeking, I persuaded the owner that he should build to Lloyds EP notation, which he did. I try and do this with all our new builds – risking a kick in the shins under the table from the yards sometimes. I think it is the very least one can do and shouldn't necessarily result in a significant cost penalty if factored in right from the outset.

Maela Lenci
Lenci Marine

It is a time of stasis in the yacht building industry at the moment, but we continue to research into the conversion of a working tug into a yacht using hybrid or diesel-electric propulsion and we will certainly discuss the interior environmental issues with prospective owners. Proposing sustainable yachts at such a difficult time for the market might seem overly optimistic, but in a few years it will become even more necessary. Recycling existing vessels is a step in the right direction.

Jonny Horsfield
H2 Yacht Design

Generally not yet in any detail, and certainly not with most. To be brutally honest, I think the yacht industry will take a while to adapt in any scale to this subject unless they see a marketing benefit to it. Why add extra costs if the client isn't bothered? However, you only have to look at the way the car industry has, in less than five years, adapted to electric/dual-powered engines, for instance. As we are such a small part of the shipping industry I am sure much of the major technical progress will come from the cruise ship/commercial shipping sector, as well as tightening regulatory controls.