

# Exploring the Shift towards Sustainability in Luxury Yachting: Balancing Opulence with Environmental Responsibility

## *INTRODUCTION*

The luxury boating industry, which has always been associated with glitz, opulence and exclusivity, is now at a turning point in its evolution,

As boating grows, so does the focus on sustainable design for environmentally friendly boats, both in terms of the materials used in the construction of hulls and interiors and with regard to propulsion systems that must strive for zero emissions.<sup>1</sup> (*Green Planner Magazine*)

The construction and enjoyment of luxury yachts, which has always been characterized by intensive use of resources, now seeks a different approach, characterized by a balance between environmental responsibility and sustainability, this given by an increasing focus on the use of eco friendly materials and increasingly carbon free engines, a change increasingly desired by consumer preferences.

Nowadays, wealthy clients are inclined to select options that are environmentally conscious in addition to those that are traditionally perceived as luxurious, thus propelling the industry towards a future that is more sustainable (*Marine & Offshore Magazine, 2023*).<sup>2</sup>

The combination of luxury and sustainability creates unique challenges and opportunities for the yachting industry.

Despite of the evident leaning of the market towards more sustainable practices, the implementation of these initiatives is often threatened by technological, economic and regulatory barriers.

The objective of this thesis is to examine the various challenges that the luxury yachting industry is currently undergoing and to identify innovative solutions that can facilitate the industry's transition towards sustainability.

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<sup>1</sup> Green Planner Magazine: Nautica, sempre più attenzione alla sostenibilità  
<https://www.greenplanner.it/2023/07/14/nautica-attenzione-sostenibilita/>

<sup>2</sup> Marine & Offshore Magazine. (2023). *Sustainable Luxury: What Green Means for Yachts*. Bureau Veritas. Retrieved from [Bureau Veritas](#).

How can the yachting industry integrate sustainable practices without compromising luxury?

What are the most promising technologies and business models to drive this change?

How can stakeholders work together to overcome the barriers to sustainable development in the yachting sector?

This study holds great importance as it conducts a thorough analysis of the possibility of luxury and sustainability coexisting in the yachting industry. Through the presentation of successful examples and new business strategies, this paper provides valuable insights for key players in the field, such as yacht manufacturers, designers, owners, and decision-makers.

The main goal of this research is to add value to the larger conversation on sustainable luxury by offering actionable suggestions for promoting an environmentally responsible, yet still luxurious, yachting experience.

This thesis is structured into three main chapters, each of which addresses a critical aspect of luxury and sustainability in the yachting industry.

The initial chapter, the **introduction**, presents an overview of the research background, evidences the characteristics of the Luxury Yachting sector, problem statement, objectives, and structure of the thesis.

The second chapter, entitled "**Luxury And Sustainability: Conflict or Synergy?**", examines the definition of sustainability in this particular environment, evolution and current trends in sustainable luxury yachts, the green marketing and the various strategies adopted from the most important firms, and open an eye about the most fascinating innovations in the sector to adapt luxury with an eco-friendly approach.

The third chapter, entitled "**Leading Companies: How the Luxury Yachting is pivotal in the Green Change**", considers the part played by entrepreneurs, technological developments and business models in promoting sustainability within the industry.

Two Case Studies about Azimut and San Lorenzo will deepen how leading companies are stepping into the field of sustainability.

The thesis structure is planned to have an easy analysis of the intricate relationship between luxury and sustainability in the yachting sector in a logical and organized approach.

Through a detailed examination of current practices, trends, and innovations, it pursues to offer a roadmap for the industry to achieve a sustainable yet luxurious future.

# **THESIS: Exploring the Shift towards Sustainability in Luxury Yachting: Balancing Opulence with Environmental Responsibility**

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## 1.1 Oversight of the nautical market

The global nautical market, known for its leading role in design and trends, always represents a very interesting subject, as it grows on a wide open international scale, and is often pioneer in high-tech and eco-friendly innovations.

In particular the motorboats segment which represent ~90% of global new build retail market <sup>3</sup>.

The nautical sector has shown remarkable dynamism in recent years, with remarkable growth and the construction of an ever-increasing number of new vessels, demonstrating great resilience in the face of the COVID 19 epidemic and the economic and financial turbulence;

With people looking for safer and more comfortable places to spend their holidays, the pandemic has helped shape the boating market:

The boat is now perceived even more as a safe place to be, as a "safe haven asset" for which more and more people are willing to spend money.

In addition, the public's desire for a more stress-free lifestyle has led them to use the boat as a remedy for personal and professional issues.

The consumer perspective has changed, the boat and the sea are now perceived as a shelter for a better life.

With increasing attention to sustainability, shipyards and the entire value chain are committed to future challenges.

Looking to the future, sustainability and technological innovation will continue to drive the evolution of luxury yachting.

*"The future of luxury yachting is green, and those who do not adapt will be left behind" (Tommaso Nastasi, Deloitte).*

The evolution of luxury yachts reflects changes in society and technology.

From symbolising opulence to embodying sustainability, luxury yachts will continue to represent the best of human engineering and design.

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<sup>3</sup> (*The state of the art of the global yachting market*". Deloitte, Confindustria 03/04/23)

Interior design for sustainable yachts is undergoing a revolution, with an increasing focus on the use of eco-friendly materials and innovative technologies.

For example, the usage of a new typology of sustainable materials such as teak wood and fibreglass, the use of composite materials, which combine natural fibres with bio-based resins, is becoming increasingly prevalent due to their durability and reduced environmental impact.

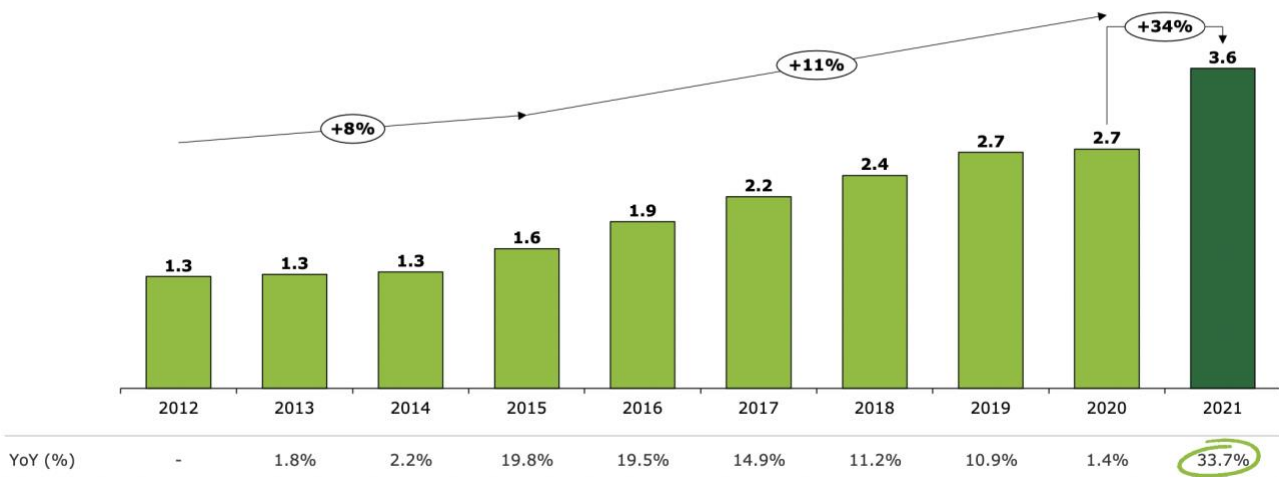
These materials offer similar or even superior performance compared to traditional options and significantly reduce the carbon footprint associated with yacht construction.

Furthermore, the incorporation of recycled metals and sustainable woods into yacht designs serves to further reduce the environmental impact . *(Marine & Offshore Magazine, 2023)*.

Radically different construction methods are being implemented - starting with reusing old boats - and new propulsion solutions such as hydrogen cells fuelled by methanol and hybrid engines.

Analyzing the market more deeply with a particular focus on the European side, we can observe that the Italian shipyard's production showed resiliency to the pandemic, reaching 3.6B€ in 2021. *(elaboration on ConfindustriaNautica and official annual reports)*

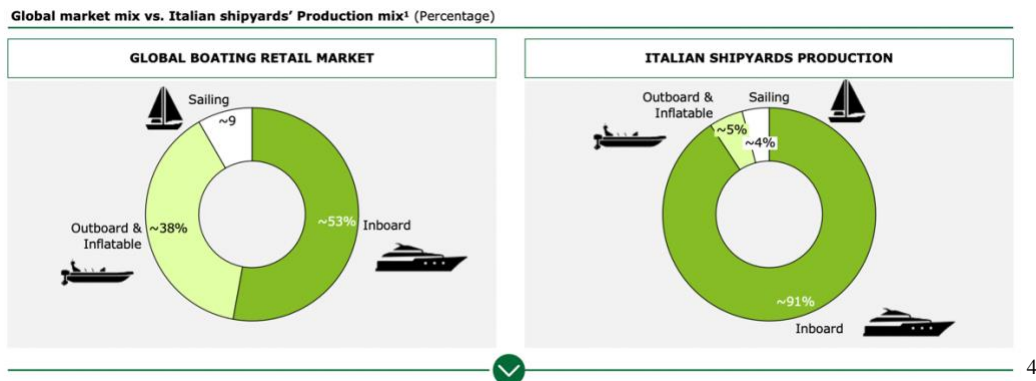
Italian shipyards' Value of Production historical evolution (B€)



Comparing with the global market, we can assume that Italian shipyards are more specialized on the construction and sales of large motorboats, with a particular focus on super yachts and powerboats.

In fact, Italy holds a leading position within the global Superyachts market (24mt+ / 80ft+ )

Sail boats, outboards and inflatable hold a lot more percentage points in the global mix rather than in the Italian mix.



## 1.2 Historical evolution of Luxury Yachting

The evolution of luxury yachting is a fascinating journey that reflects social, technological and environmental changes over the centuries. From the opulence of the first private yachts to modern eco-friendly vessels, luxury yachting has always been a symbol of status and innovation.

The history of luxury yachting begins in the 19th century, when the first private yachts were built for Europe's elite. These yachts were often commissioned by royal families and industrial magnates, and represented the height of luxury and opulence. An emblematic example is the 'Christina O', the yacht of Aristotle Onassis, which became a symbol of wealth and power in the 1950s.

*“Luxury is not a necessity, but when it is there, it transforms life” (Aristotle Onassis).*

The Golden Age of Superyachts, that took place in the 1980s and 1990s, is unbearably the most decisive and fascinating period for the market.

During these years, luxury yachting saw an explosion in popularity with the construction of the first superyachts.

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<sup>4</sup> (elaboration on *ConfindustriaNautica and Deloitte Boating market monitor, 2021*)

These boats, over 24 meters long, were equipped with every imaginable comfort, from swimming pools to private cinemas. Italy became a world leader in the production of superyachts, with yards such as Benetti and Ferretti setting new standards of quality and design.

*'Luxury yachting is an art, and like all arts, it requires passion and dedication' (Paolo Vitelli, founder of Azimut Yachts).*

In general, both the interiors and the exteriors of today's yachts are very different from those of the early 90s. For most of the twentieth century, the most representative statement describing the nature of yacht interiors comes from **Barthes (1956)** “*an inclination for ships always means the joy of perfectly enclosing oneself, of having at hand the greatest possible number of objects and having at one's disposal a finite space*”<sup>5</sup>



The interior design of yachts has gradually evolved from over-decorated spaces with lavish furniture and textures to a more linear, modern and clean design language. For over a century, the furnishing of yachts has been marked by bespoke pieces of furniture, usually made from the darkest and most exotic woods. The textures of the fabrics and the finishing materials were, in general, baroque and difficult to see, with the effect of making the spaces seem narrower.

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<sup>5</sup> Barthes, R., Miti d'Oggi, Einaudi, (1956)

<sup>6</sup> Hanuman interiors, <https://www.architecturaldigest.com/gallery/panerai-classic-yachts-challenge>



Today, there is no such thing as a typical yacht interior. Buyers are generally younger, come from different cultural backgrounds and have different expectations. Owners from the United States tend to place a high value on comfort and still tend to shy away from ultra-modern interiors.

Asian owners may have a tendency towards large volumes, while the Russian and Middle Eastern markets are often in search of opulence.

*“I don’t think there’s a client who comes to us today without a gym and a spa,”* designer **Andrew Winch** says. *“It all started when people stopped smoking.”* **Breman at Lürssen**<sup>7</sup> ties the focus on onboard wellness to the rise of a wealthy Russian clientele. *“The banya [traditional sauna] is really part of their culture,”* he says.

With the move to larger beach clubs and wellness centres, there has also been a change in the storage of tenders. The role of the tenders themselves has also changed, with large yachts now often carrying a number of auxiliary boats.

Tender building is now a booming business. “A tender used to be a RIB and a GRP boat like a Boston Whaler,” **Bais, of Diana**, says. “Now you see a 9.1m limo tender with a moving roof, to get the same experience as you would on the yacht.”<sup>8</sup>

The definition of tender has also expanded. Back in the 1980s, helicopters were still the preserve of a handful of mavericks. According to Feadship, the first helipad, on LacII in 1975, required two crew members to grip the landing skid and pull the aircraft onto the deck.

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<sup>7</sup> **The evolution of a superyacht - BOAT International**

<sup>8</sup> <https://www.boatinternational.com/yachts/yacht-design/evolution-of-a-superyacht>



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Today, the very largest offer hangar space for one or even two aircraft. They are not just touch-and-go helipads.

The designer **Espen Øino** believes that we are on the cusp of a revolution in mobility.

*“If drone technology can be scaled up to helicopters, then we will have personal transportation with something as simple and reliable as a drone,”* he says.

So it is no surprise that designers, influenced by the more and more pushing of the consumer interests in front of sustainability, are reporting a renewed interest in sailboats. *“Sailing boats are coming back in fashion and the reason is environmental; everyone is trying to get rid of diesel,”* says **Winch**.<sup>10</sup>

Sustainability is the new key word in yachting, one that didn't exist 40 years ago. For some, it means zero-emissions power; for others, it's durability. *“Yachts may cost more today, but you're not using materials that are going to be obsolete,”* says **P.Vitelli (Azimut Yachts)**.

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<sup>9</sup> *Lac II* could land a Bell 206B JetRanger , Feadship

<sup>10</sup> The evolution of a superyacht - BOAT International

## Current Trends

The yachting industry is undergoing a significant transformation driven by evolving consumer preferences, technological advancements, and a heightened focus on environmental sustainability. A significant trend is the growing emphasis on sustainability, with the industry adopting eco-friendly technologies such as hybrid propulsion systems, solar panels, and energy-efficient hull designs. According to the **Water Revolution Foundation**, the implementation of sustainable practices can reduce a yacht's carbon footprint by up to 30%.

Technological advancements are playing an instrumental role in the enhancement of the yachting experience. The incorporation of artificial intelligence (AI), the Internet of Things (IoT), and automation is enhancing the performance and safety of yachts. Smart yacht systems permit owners to monitor and control various onboard systems remotely, thereby optimising efficiency and enhancing security. Furthermore, augmented reality (AR) and virtual reality (VR) are increasingly utilised in yacht design and marketing, providing immersive experiences that enable potential buyers to explore yacht layouts virtually. This technological integration is not only enhancing customer experiences but also streamlining operations and maintenance.

The yachting industry is currently undergoing a period of significant transformation, with customisation and personalisation emerging as key drivers of innovation. Yacht owners are increasingly seeking bespoke designs and personalised services that align with their unique lifestyles and preferences. This trend extends beyond the design phase and encompasses tailored itineraries and onboard experiences. The demand for uniqueness is fueling the development of novel approaches to yacht interior design, with a focus on versatile and multifunctional spaces that can adapt to different uses, such as entertainment, relaxation, and remote work.

The trend towards health and wellness is also gaining momentum in the yachting industry. Yacht builders are incorporating a variety of features designed to promote wellness, including wellness centres, gyms, spas, and outdoor relaxation areas. Advanced air purification systems, circadian lighting, and noise reduction technologies are becoming standard, enhancing both physical and mental well-being for those on board. Wellness-focused yacht charters are becoming increasingly popular, offering itineraries that include activities like yoga, meditation, and holistic therapies, reflecting a broader societal desire for experiences that support personal well-being and rejuvenation.

Additionally, yacht manufacturers are utilising sustainable materials, including recycled composites and non-toxic paints, in response to the increasing demand from environmentally conscious consumers.

The yachting industry is also experiencing significant market growth, particularly in emerging regions such as Asia and the Middle East.

The global yacht market size is expected to reach USD 13.61 billion by 2030,<sup>11</sup> expanding at a CAGR of 5.2% from 2023 to 2030. This growth is fueled by increasing wealth in these regions and a diversification of the yacht owner demographic, with younger and more diverse individuals entering the market. The rise of yacht co-ownership and membership models is making yachting more accessible, allowing individuals to enjoy the yachting experience without the full financial commitment of ownership.

Focusing on the national economy, we could proudly evidence that, generating over €27 billion a year and 157,000 jobs, the Italian yachting industry is a vital sector within the national economy. The Italian yachting industry is growing at three times the national GDP rate, showing remarkable resilience and ability.

From EUR 1.3 billion in 2012 to EUR 4.5 billion in 2022, the production value of the shipbuilding industry highly increased.<sup>12</sup>

With a compound annual growth rate (CAGR) of 19%, around 70% of this growth is attributable to superyachts, a sector in which Italy is a global leader, with around 50% of global orders for yachts over 24m.<sup>13</sup>

One of the strengths of Italian shipbuilding is its ability to combine tradition and innovation. Italian yards are renowned for their craftsmanship, which is reflected in the attention to detail and the quality of the materials used. At the same time, the industry has been able to invest in new technologies and production processes, staying at the forefront of design and sustainability. This mix of tradition and innovation has enabled Italian shipyards to consolidate their leading position on the world market, attracting an increasingly demanding international clientele.

By investing in innovative solutions to build yachts with a low environmental impact and by promoting sustainable practices, the Italian shipbuilding industry is already taking significant steps

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<sup>11</sup> Grand View Research

<sup>12-13</sup> Report from Deloitte-Altgamma

forward. For example, the use of recyclable materials and energy-saving technologies is on the increase, as is research into alternative propulsion systems, such as electric and hybrid propulsion. Another key area for the future of Italian yachting is training and professional qualifications.

### **'Luxury and sustainability: Conflict or Synergy?'**

How to effectively merge extreme luxury and massive yachts with sustainable practices and a greener future?

On initial observation, the opulence of superyachts, which are emblematic of status and extravagance, may appear to be incompatible with the principles of sustainability.

The growth of the yacht market is driven by a continuously developing economy and an increase in the number of high-net-worth individuals (HNWIs). In this case, as economies expand, spending capacity also increases accordingly allowing for luxury and leisure. Being drawn to exclusive experiences, wealthy individuals often perceive yacht ownership as a status symbol and a way to live extravagantly. As such, economic boom means there are more buyers who can afford yachts – from small cruisers up to mega-yachts. Various boats with high-tech facilities; lavish amenities; and bespoke options are offered by the market in response to this. The global yacht market remains buoyant due to a growing number of rich people desiring yacht ownership as their wealth grows over time. Nevertheless, the implementation of ESG (Environmental, Social, and Governance) policies demonstrates that even the epitome of luxury can espouse environmentally conscious practices.

ESG policies represent a set of criteria that companies use to guide their environmental, social and governance practices, promoting a more responsible and transparent approach.

In the context of luxury yachting, these policies can transform consumer perceptions, emphasising that sustainability does not have to be at the expense of exclusivity and quality.

A notable recent innovation is represented by Artificial Intelligence (AI), used to improve safety, fuel efficiency and a more focused navigation: AI uses the weather information, wind chart and nautical maps to optimize routes, find optimal spots for anchoring and monitors the fuel usage, to give to the user a more secure and green route.

In April 2023, an innovative vessel has been presented to the market, Rossinavi No Stress is the first hybrid yacht equipped with AI, No Stress is an all-aluminum sporty yacht with a fast-displacing hull.

The ship has a double engine system;

two MTU 16V 2000 M96L diesel engines and two electric motors motorized by both the battery pack and generators. The system is managed by AI which monitors its consumption and advises the best routes in order to fuel efficiency and pollution.



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It is also worth considering the advancements in hybrid-electric and bio fuel propulsion systems, which significantly reduce underwater emissions and noise, thereby enhancing both the onboard experience and marine life protection. Similarly, the use of solar panels and kite sails, which harness renewable energy sources to power these magnificent vessels, represents an important step forward.

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<sup>14</sup> No Stress, [Superyachttimes.com](https://www.superyachttimes.com)

Furthermore, shipyards are making strides by incorporating recycled materials and sustainable construction processes, ensuring that yachts start their journey with a minimal carbon footprint.

This is a pivotal moment for the luxury yachting industry. Can it lead the way in demonstrating that luxury and sustainability are not mutually exclusive, but can in fact create a powerful synergy? The answer lies in a continued commitment to ESG principles and the innovative application of green technologies and practices. As the industry evolves, it has the potential to set a new standard for luxury that is as sustainable as it is spectacular.

Young consumers, particularly millennials and Generation Z, are becoming a driving force in the luxury yachting market. These groups are attracted not only by the luxury and exclusivity of luxury yachts, but also by the unique and personalised experiences that luxury yachts can offer.<sup>15</sup>

Reflecting the growing environmental awareness of young buyers, demand for custom yachts with eco-friendly features is on the rise.<sup>14</sup>

Consumer behaviour in the luxury sector is undergoing a significant shift, driven in large part by the growing environmental awareness of younger generations. Millennials and Generation Z in particular are increasingly prioritising sustainability in their purchasing decisions, even in the luxury sector. This shift in consumer values presents both a challenge and an opportunity for the luxury yachting industry. On the one hand, the traditional image of yachts as symbols of excess and disregard for the environment may deter environmentally conscious consumers. On the other hand, there is a growing demand for luxury products that combine exclusivity with eco-friendliness, providing fertile ground for green marketing strategies.

Millennial and Generation Z consumers are not just looking for luxury; they are looking for luxury that aligns with their values. This demographic values experiences over possessions, and when it comes to luxury, they are looking for products that offer unique, personalised experiences that are also socially and environmentally responsible. For these consumers, the story behind a product is as important as the product itself. They are drawn to brands that are transparent about their practices and committed to making a positive impact on the world.

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<sup>15</sup> <https://www.fortunebusinessinsights.com/luxury-yacht-market-105396>

In the context of luxury yachting, this means that consumers are increasingly interested in yachts that not only offer the ultimate in luxury, but also incorporate sustainable practices. For example, yachts that use hybrid engines, solar panels or sustainable materials are likely to appeal to these consumers.

There is also a growing demand for custom yachts with eco-friendly features as consumers seek to create unique, personalised experiences that also reflect their commitment to sustainability.

Green marketing in the luxury yachting industry can take advantage of this shift in consumer behaviour by emphasising the environmental benefits that eco-friendly yachts can offer. This can be achieved through a variety of marketing strategies, including product-based marketing, brand positioning and storytelling. Product-based marketing involves highlighting the specific features of a yacht that make it environmentally friendly, such as energy-efficient engines or the use of recycled materials. Brand positioning involves positioning the yacht manufacturer as a leader in sustainable luxury, appealing to consumers who prioritise sustainability in their purchasing decisions.

Example: The Feadship Future Concept yachts are marketed as visions of sustainable luxury, incorporating energy-efficient designs and technologies.

Feadship positions itself as a forward-thinking brand, committed to leading the industry towards a more sustainable future.

Storytelling is another powerful green marketing tool. By telling the story of how a yacht was designed and built with sustainability in mind, manufacturers can create an emotional connection with consumers. This can be particularly effective in the luxury sector, where consumers are often looking for more than just a product - they are looking for an experience. By weaving sustainability into the narrative of luxury, yacht manufacturers can appeal to the values of environmentally conscious consumers while still offering the exclusivity and opulence that define the luxury yachting experience.

Sunreef Yachts markets its eco-friendly models by telling the story of their development, focusing on the use of renewable energy sources such as solar panels and the integration of sustainable materials. This narrative highlights the brand's commitment to creating luxury yachts that respect the environment.



To reach and engage with younger, environmentally conscious consumers, digital platforms offer a direct route. Social media campaigns allow brands to showcase green initiatives, share success stories and engage with followers passionate about sustainability. This strategy not only raises awareness, but also builds a community around the brand's environmental values.

For example, Silent Yachts, known for its solar-powered catamarans, effectively uses social media to promote the benefits of its technology. Their campaigns focus on the silent, emission-free cruising experience, appealing to both luxury and environmentally conscious buyers.

These strategies illustrate how the yachting industry can effectively integrate green marketing into its business models and appeal to a growing market of luxury consumers who value sustainability.

The growing demand for sustainable luxury represents a significant opportunity for the luxury yachting industry. By adopting green marketing strategies that resonate with the values of millennials and Generation Z, yacht manufacturers can attract a new generation of consumers who are looking for luxury that aligns with their commitment to environmental stewardship. This not only enhances the appeal of luxury yachts, but also contributes to the broader goal of promoting sustainability across all sectors of the economy. The next wave of boat buyers could find themselves aboard a ship powered by a colossal kite sail, turning what was once the realm of the what-if into the now-possible. The superyacht industry has taken steps, large and small, over the past five years to become a global green player. Hybrids are becoming more common, giants like the 600-foot REV Ocean are doubling as mobile research vessels, and the most forward-thinking builders are experimenting with zero-fossil-fuel propulsion - from full solar panels to kite sails to sci-fi-level converters that generate instant, renewable electricity.<sup>16</sup>

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<sup>16</sup> <https://robbreport.com/motors/marine/rev-ocean-worlds-largest-superyacht-2865687/>



Evolving day by day, the yachting market is pioneer of the most advanced and astonishing innovation when it comes to greener engines and less pollutant:

Various life-changing innovation have been adopted, one of the most important after hybrid solutions, is represented by Eni BioFuel HVolution: Eni Sustainable Mobility's first diesel produced from 100 per cent renewable raw materials.

HVolution is a biofuel that is produced from waste raw materials and plant residues, and from oils generated by crops that do not compete with the food chain. It can contribute to the immediate decarbonisation of the transport sector, including heavy-duty transport, taking into account exhaust emissions, because it can be used with the current infrastructure and in all type-approved engines, whose performance remains unchanged. In addition, added to diesel fuel, since 2016 HVO biofuel is present at 15% in the Eni Diesel + product, available at more than 3,500 service stations in Italy.

Eni has signed agreements and partnerships to valorise waste and refuse by using them as feedstock for the production of biofuels such as HVOlution. In several African countries including Kenya, Mozambique and Congo, Eni is developing a network of agri-hubs where vegetable oils will be produced that can grow in marginal soils and degraded areas and are not in competition with the food chain, while at the same time creating job opportunities in the area.

Recently, the first load of vegetable oil produced in the Makueni agri-hub arrived at the Gela biorefinery from Kenya, while the first load of used frying oil arrived in Venice. The goal is to cover 35 per cent of the supply of Eni's biorefineries by 2025.<sup>17</sup>

A brighter and less-pollutant future is coming closer, meanwhile technologies and a new approach on carbon-fossil fuel are changing the way the world responds to the less and less natural resources, Finding alternatives that could benefice not only shipyards and final customers, but making the whole yachting experience more comfortable, in a greener and more environmentally focused manner.

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<sup>17</sup> <https://www.eni.com/it-IT/media/news/2023/02/eni-sustainable-mobility-biocarburante-100-materie-prime-rinnovabili-arriva-stazioni-servizio.html>

## **A pioneer Italian shipyard: AZIMUT BENETTI**

Azimut Benetti Spa is a leading name in the yachting industry, synonymous with luxury, quality, and innovation. Founded with a clear vision by the Vitelli family, the company has managed to blend tradition with innovation, establishing itself as a world leader in the production of yachts over 24 meters. One of the keys to Azimut Benetti's success lies in its commitment to sustainability and environmental responsibility, two fundamental pillars of its business strategy.

In recent years, the company has proven to be at the forefront of adopting green solutions, as evidenced by a significant €150 million<sup>18</sup> investment allocated to research and development aimed at reducing the environmental impact of its vessels. This investment is primarily focused on reducing CO2 emissions, an ambitious but necessary goal in a sector known for its resource consumption and environmental impact.

In 2023, the Group signed the first agreement in the sector with Eni Live for the replacement of all fossil fuels used by the Group for sea trials, testing and prototype transfers with HVO biodiesel. HVO biodiesel is a biofuel made from renewable raw materials that allows, depending on the raw materials used in its production\*<sup>19</sup>, a reduction CO2 emissions by up to 90% compared to the fossil reference mix. used in its production. Under the agreement signed with Eni Live, the Group will purchase approximately 700,000 litres of HVO from this year onwards, avoiding the release of up to 1,800 tonnes of CO2 into the into the environment. This reduction is equivalent to avoiding the emissions from around 1,800 flights from Frankfurt to New York.

Azimut Benetti's yachts are also designed with energy efficiency in mind.

More than half of the fleet can now be classified as Low Emission Yachts, a tangible sign of the group's commitment to a more sustainable future. This vision translates not only into reduced emissions but also greater efficiency and reduced consumption, this is made possible thanks to the adoption of an extensive usage of carbonfiber and innovative propulsion systems.

Benetti, in particular, has integrated hybrid systems into its yachts that enable significant reductions in CO2 and NOx emissions.

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<sup>18</sup> Azimut Benetti Spa, Corporate Communications

<sup>19</sup> According to the conventional criterion of Directive (EU) 2018/2001 "REDII", the reduction in CO2eq emissions of the HVOlution along the logistics-production chain in 2022 was between 60% and 90%, compared to the mix reference fossil (i.e. 94g CO2eq/MJ), depending on the raw materials used for its production.

The Benetti B.Yond has been awarded the greenest model in its category, one of the latest models introduced to the market, represents an example of green yachting, capable of reducing CO2 emissions by up to 24% and NOx emissions by up to 85%.

The next objective will be the further optimisation of fuel consumption and emissions from on-board systems. This issue is particularly relevant for larger boats, which spend around 90% of their time at anchor. Benetti has started to address solutions such as the "Zero Emission Hotel Mode", powered by fuel cells and advanced energy management systems.

These solutions include measures that can reduce air conditioning energy consumption by up to 50%.



-Benetti B.Yond (<https://arconyachts.com/en/shipyards/benetti/sales/benetti-byond-37m>)

The commitment to sustainability is also reflected in the production processes. Azimut Benetti's facilities aim to use 50% renewable energy by 2026, another milestone that confirms the group's dedication to the environmental cause. At the same time, the company is developing recycling projects for materials such as fiberglass and wood, thus contributing to a more circular and sustainable economy in yacht manufacturing.

The future of Azimut Benetti is therefore oriented towards the increasing integration of green technologies, without ever sacrificing the elegance and luxury that have always characterized their yachts. In an industry where luxury and exclusivity are often seen as opposing sustainability, Azimut Benetti demonstrates that it is possible to combine both dimensions harmoniously.

The Azimut Benetti Group has maintained its status as the top global manufacturer of yachts exceeding 24 meters, holding a firm lead in the Global Order Book, which is compiled by Boat International magazine. This annual report gathers and assesses information from 177 shipyards around the world. In the 2024 edition, the Group is ranked first both for the number of yachts under construction and for the total length of these projects, with 167 yachts totaling 6,014 meters, which accounts for 14% of the global market evaluated by Boat International.<sup>20</sup>

These impressive figures align with the Group's record-breaking financial performance for the fiscal year ending on August 31st, 2023. The company achieved a production value increase of more than 23% compared to the previous year, alongside a 50% rise in EBITDA.<sup>21</sup>

Over the past five years, the production value has nearly doubled, rising from 700 million to 1.3 billion euros, with the order backlog extending into 2027. This success underscores the market's preference for the Group's design and technological innovations, as well as its efforts to address fuel efficiency and minimize environmental impact.

The financial strength and stability of the Group enable it to commit 150 million euros over the next three years towards further innovation. This investment reflects its ongoing focus on research and development, particularly in finding ways to lessen the environmental footprint of its yachts. The Group is a frontrunner in the industry for reducing CO2 emissions, thanks in part to its pioneering agreement to utilize HVO biofuel, a first in the yachting sector. Building on these achievements, the Group is collaborating with Lloyd's Register and the Superyacht Eco Association to push for the creation of a public index to measure yacht efficiency.

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<sup>20-21</sup> <https://azimutyachts.com/en/news-events/news/azimut-benetti-first-in-world-yachting-industry/>

## San Lorenzo Yachting: Steering Toward Sustainability

Sanlorenzo, a globally recognized name in luxury yacht building, has made significant strides toward sustainability. With a focus on reducing environmental impact, Sanlorenzo is blending its signature craftsmanship with cutting-edge technology to create yachts that are as kind to the planet as they are luxurious. This case study delves into the brand's efforts to decarbonize, improve production practices, responsibly manage its supply chain, and prioritize employee safety. Plus, we'll showcase one of their most eco-friendly yachts to date.

### Decarbonization: Reducing the Environmental Impact

Sanlorenzo's journey to reduce its carbon footprint has taken shape through a focus on both direct and indirect emissions.

- The company's direct emissions primarily stem from fuel consumption, particularly during yacht sea trials. To address this, Sanlorenzo switched to **HVO biofuel**, which can cut emissions by as much as **90%**. Even though overall emissions increased slightly in 2023 due to expanded operations (reaching **3,836 tons CO<sub>2</sub>**), Sanlorenzo successfully managed to stabilize emissions relative to its revenue, signaling significant progress<sup>22</sup>
- Sanlorenzo has focused on reducing emissions from purchased electricity by installing **solar panels** at their shipyards, allowing them to lower their carbon output by about **600 tons annually**. The Ameglia site, for instance, is now fully powered by **100% renewable energy**, contributing significantly to this reduction<sup>23</sup>
- Scope 3 emissions, which include the environmental impact of the entire supply chain and the lifecycle of their products, were measured in detail for the first time in 2023. Sanlorenzo reported that the largest contributors were purchased goods and services (responsible for over **41,000 tons CO<sub>2</sub>**) and emissions from yachts during their usage (**250,000 tons CO<sub>2</sub>**)<sup>24</sup> As they continue monitoring these areas, the goal is to implement reductions across the supply chain.



## Sanlorenzo's Green Innovation: The 50 Steel Superyacht

One of Sanlorenzo's standout achievements in sustainable design is the **50 Steel superyacht**, which is setting new standards in eco-friendly yachting. This yacht is powered by **methanol fuel cells**, a technology co-developed with Siemens Energy. These fuel cells work by converting methanol into hydrogen, which then powers the yacht's electrical systems.

Unlike traditional combustion engines, this approach enables **zero-emission cruising** for distances of up to **180 miles** at high speeds. The use of methanol also eliminates the need to store hydrogen on board, making it both a safer and more sustainable alternative.<sup>23</sup>

Expected to debut fully in 2024, the 50 Steel marks a significant leap forward in green yacht technology without compromising on luxury or performance.



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<sup>23</sup> <https://www.sanlorenzoyacht.com/uk/responsible-development/responsible-development.asp>

<sup>24</sup> <https://ruyachts.com/yachts/sanlorenzo/steel-displacement/50-steel/>



## **Sustainable Production: Reimagining How Yachts Are Made**

Sanlorenzo's commitment to sustainability extends beyond the design of their yachts...it's embedded in the way they're built.

- **Eco-Friendly Materials and Processes:** Sanlorenzo is exploring sustainable material use and processes that promote circularity, ensuring that as many components as possible are recyclable or reusable. By focusing on **Design for Disassembly**, they aim to make yachts easier to dismantle at the end of their life, minimizing waste<sup>25</sup>
- **Energy-Saving Production:** At their shipyards, Sanlorenzo has implemented energy-saving measures and optimized their production lines to reduce energy consumption. These efforts, combined with their reliance on renewable energy sources like solar power, are helping the company reduce its environmental footprint
- **5. Responsible Supply Chain: Collaborating for a Greener Future**

Sanlorenzo understands that to be truly sustainable, their entire supply chain needs to align with their environmental goals. That's why they're working closely with suppliers to ensure they meet strict sustainability standards.

- **Collaboration with Artisanal Suppliers:**

The company partners with over **1,500 small, local suppliers** who specialize in craftsmanship. These artisans, mostly based in Italy, play a key role in ensuring that Sanlorenzo can maintain its quality while also advancing its sustainability goals<sup>26</sup>

- **Supply Chain Mapping:**

One of Sanlorenzo's innovative initiatives is its comprehensive **supply chain mapping** project, which tracks the environmental and social impacts of all suppliers. This allows them to make better decisions about sourcing and production while ensuring that every step in the supply chain adheres to ethical and environmental standards.<sup>27</sup>

## 6. Social Responsibility: A Focus on Employee Well-Being

Sanlorenzo's commitment to sustainability also extends to their workforce. Ensuring a safe, supportive work environment is a priority, and the company has implemented several key initiatives to enhance worker safety and skill development.

- **Workplace Safety:** Through robust safety protocols and training programs, Sanlorenzo has seen a notable decrease in workplace injuries. The company provides ongoing safety training to its employees, ensuring they have the knowledge and tools to work safely.<sup>26</sup>
- **Skill Development and Training:** Sanlorenzo also invests in its people, offering **over 10,000 hours of training** in 2023 alone. This not only helps employees grow professionally but also supports the company's long-term sustainability efforts by cultivating a knowledgeable and skilled workforce.<sup>27</sup>

### Sailing Toward a Sustainable Future

Sanlorenzo's efforts in sustainability are a clear reflection of their vision for the future. By focusing on reducing emissions, improving production processes, fostering sustainable supply chains, and investing in their workforce, Sanlorenzo is setting new standards in the luxury yacht industry. The introduction of innovations like the **50 Steel superyacht** demonstrates how the company is leading the charge in creating a future where luxury and sustainability coexist.

With a clear path toward **2030**, Sanlorenzo's focus on innovation, sustainability, and craftsmanship will continue to guide them as they set sail into a greener future.

The transition towards sustainability in the luxury yachting sector is not merely an ethical obligation; it is, in fact, a comprehensive transformation encompassing technological advancement, design innovation, and the evolution of business models. In examining this phenomenon, it has become evident that the conjunction of opulence and environmental responsibility is not only feasible but is also becoming a pervasive phenomenon, driven by the demand for a more environmentally conscious and respectful form of luxury.

Leading companies such as Azimut Benetti and Sanlorenzo are demonstrating that sustainability is not a compromise, but rather a strategic lever through which the future of the market can be defined. The utilisation of biofuels, the incorporation of recycled materials and the integration of hybrid propulsion systems are illustrative of the manner in which the industry is evolving towards a state of equilibrium between exclusivity and reduced environmental impact.

This transformation is not solely the result of regulatory pressures or growing environmental awareness; it is also driven by the demand of new generations of customers, who expect luxury to reflect values of sustainability and innovation. The advent of technologies such as artificial intelligence, automation and eco-friendly materials has the potential to usher in a new era of yachting, where these vessels will not only serve as symbols of status but also as instruments of environmental stewardship.

The route towards a more sustainable form of luxury yachting is therefore defined, but it will necessitate a collective endeavour on the part of all stakeholders, from shipyards to owners to legislators. It is only through continuous cooperation and innovation that the goal of an ecological luxury that meets today's needs and ensures a greener future for generations to come can be achieved.

Ultimately, the industry's ability to transform itself, without giving up its luxury soul, will be decisive for its long-term survival and growth. As recent developments testify, the future of luxury yachting will not only be defined by the size or exclusivity of boats, but by the positive impact they will leave on the environment and society.

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It marks the conclusion of a significant journey of research, study, and personal investment.

Upon fulfilling a goal, regardless of its magnitude, I find it enlightening to briefly take a moment to reflect on the initial day when my fears and insecurities initially made the goal seem more intimidating than it truly was.

Day by day, train by train, I grew in strength and confidence thanks to the love and support of my family and the friendship of my colleagues. My horizons expanded and I began to view the future with a brighter and wider view.

Fears transformed into challenges, weakness into opportunities, and at the conclusion of these three years, I can assert that I have developed, matured, and acquired a more comprehensive, illuminated, and optimistic perspective. Looking back, I recall these years with immense joy and pride, as they were dynamic, instructive, and enriching. With the guidance of my mother, the wisdom of my father, and the comforting presence of my grandmother, I was able to navigate the challenges that arose with greater ease and resilience.

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