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FOR THE MARINE TRADE | SEPTEMBER 2022 | ISSUE 04

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The autumn boat shows arrive at a pivotal moment for the industry. While the leisure marine market has experienced record levels of participation, and, in many instances, record sales, the future feels more uncertain.

Rising inflation and economic uncertainty, coupled with continuing supply chain and labour shortage, creates a more unsettled landscape for our marine businesses to traverse.

A key barometer will be this year's boat shows, where consumer appetite and spending confidence will be seen in real time. On page 7, *MIN* assesses how companies can plan, pivot and provide for the future.

Whatever peaks and troughs the next 12 months may hold, technological advances and sustainability continue to be a key focus. The issue of end of life boats and composite waste isn't going anywhere and a new UK consortium plans to lead the world in composite recycling and the production of quality secondary materials.

MIN sits down with the Blue Composites Project on page 15 to find out how the consortium plans to maximise the reuse of materials that would be otherwise destined for landfill.

Recycling onboard is also put under the spotlight on page 18 while on page 10 increasingly strict environmental regulations are advancing zero-emission marine tourism and proving a sound test bed for new sustainable technologies.

Look out for *MIN's* next print issue in November where we will delve into the issue of skilled labour shortages alongside our market analysis and innovation news.

Chantal

|| A new UK consortium plans to lead the world in composite recycling and the production of quality secondary materials. ||

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Underpinning the **uptick**

RS21 racing. Credit: Digital Sailing

The recreational marine industry typically experiences exaggerated peaks and troughs in each economic cycle. Rupert Holmes argues it doesn't have to be that way.

Following worrying times for many firms during the covid lockdowns, many companies now have order books that stretch well into the future, even if supply chain issues continue to be a headache. Yet those who have been in the industry a long time know just how important planning for a downturn is for long-term success.

At the International Multihull Show in the South of France earlier this year the mood across the big French brands was both striking and concerning. They are not counting on the current boom in sales continuing as a long-term trend. Instead, many were already planning for the possibility of more difficult times ahead.

Rising costs of living, spiralling inflation, increasing interest rates and a threat to European gas supplies are all mounting concerns. In July 2022, *Financial Times* reported German business confidence having fallen to its lowest level in more than two years, "...in the latest sign that Europe's largest economy is teetering on the brink of recession."

On a more positive note, the industry arrives at this point at a position of strength. Participation is up enormously, new boats are being cranked out as fast as possible and few are available on the brokerage market. Younger people have also returned to boat ownership, reversing a worrying long-term trend.

> **"Staffing has probably been a bigger factor [than supply chain]. Finding skilled labour is very hard."**
> *Sam Vaughan, Seldén*

In addition, many boatbuilders and manufacturers suggest that while the market recedes back to normality – and some nervousness creeps in due to domestic factors – they could still currently sell more product if supply chain, staffing and raw material supplies allowed.

Leading manufacturer of mast and rigging systems, Seldén, echoes a wide swathe of marine businesses experiencing positive results and bumper order books.

"We have experienced an increase in business across all markets – dinghy, keelboat and yacht – and in aluminium and carbon," says Sam Vaughan, head of sales at Seldén.

"During the first half of 2022, we posted an increase of over 35 per cent growth with carbon proving particularly exciting and gaining traction. We have supplied Oyster, Nautor Swan, Hallberg-Rassey and many other OEMs with lighter, stiffer carbon spars for cruising boats this year. There is real mix of cruising, and racing interest out there," Vaughan explains.

While he agrees supply chain issues have had a massive impact industry wide, Vaughan says Seldén has made workarounds with its long-established partners meaning the manufacturer has been able to "weather most storms".

Vaughan cites staffing as a bigger obstacle. "Staffing has probably been a bigger factor [than supply chain]," Vaughan says. "We are a labour-intensive company and to sustain our own growth we need increased levels of labour and finding this labour is very hard."

Since the pandemic the marine industry has seen a large number of previously UK-based foreign skilled workers leave Britain. Vaughan says that five years ago, staff supply was not such a critical issue.

"Over recent years, several of our skilled foreign workers left. I think Brexit probably started the wheels in motion and the pandemic accelerated it," says Vaughan.

Another issue facing marine manufacturing is something Vaughan terms the "work readiness" of entry-level employees. "We accept that mast building isn't a career choice that many people have when they leave school. But we're very happy to teach people the skills and we are very keen to employ young workers. The problem is that even finding people that have got any form of relatable skill is incredibly difficult – as is finding people who are work ready. This is an industry where you'll be at your workbench at 7.30am and that isn't what some younger employees are ready or willing to do," Vaughan says.

New routes to market

With areas of consumer spending likely to take a hit if financial pinches begin in earnest, new routes to market and adapting production lines becomes all the more important.

In recent years, boat shares have helped fuel growth as well as prime more customers for future boat ownership. For consumers, boat shares can be a cost-effective way to use a boat and for brokers, the model is a valuable tool to attract and retain new clients. Historically, worries including legal concerns, the possibility of disputes with other partners, or simply the fact a boat without your personal kit on board won't really feel like yours, have hampered the uptake of this type of ownership.

European yacht brokerage company Ancasta has invested a lot of effort and experience into addressing these problems and has seen positive results across its yacht share division covering sail and motor yachts. "Most enquiries tend to be from people who are

Despite the challenges, the industry arrives at this point at a position of strength. Participation is up enormously and new boats are being cranked out as fast as possible.

first-time owners," says Ancasta Group marketing director Will Blair.

"I think it's the appeal of low risk and lower commitment, combined with our service package, which people find reassuring if they haven't had boats before."

Boat shares provide a cheaper route into boating and once hooked, a growing number of boat share members are opting for full ownership. Blair gives an example of a client who started with a share of a Beneteau Oceanis 38.1, then bought an Oceanis 51.1 in the Mediterranean but held on to the share of the original boat "because he still quite enjoys it".

He also points to a change in the attitude of clients over the past couple of years whereby the boat share option is proving an essential part of Ancasta's offer: "When they walk in the door people are no longer saying: 'I want to buy that boat'. They're saying, 'I'm looking to get into boating, what are my options?'"

Join the club

In many senses, the key thing leisure boat buyers are looking for is a route to new experiences. Brands that understand this, such as Nautor's Swan and RS Sailing, are outperforming other boatbuilders. The former's regattas and rendezvous events, for example, are legendary – with buying a Swan the only way to 'join the club'.

Similarly, much of RS Sailing's success is community and activity driven. "We need to make sure we create relevant activities for our customers that gets them hooked," says commercial director Michiel Geerling.

Whether the spike in participation over the past two years – more than 1,000 people took part in the 2022 RS Games – is a temporary blip or a change in longer term behaviour is still to be seen but Geerling is positive. "If we look at the success of the RS Games, there are fewer travellers from abroad, but the local attendance has improved tremendously," he says. Although RS Sailing is a boatbuilder, the firm is expanding the range of services it offers. "Whether you buy an RS Tera or an RS21, it's super important to make sure there are relevant activities," Geerling emphasises.

The RS21 keelboat class, for instance, has six key events in

Hallberg-Rassy 50 with a Seldén carbon mast

RS21 fleet at this year's RS Games. Credit: Digital Sailing

RS Games prize-giving

locations in Croatia and Italy this year. The format is so popular that many sailors who hired a boat for one event go on to buy one of their own. Equally, the programme format is so appealing that many of the professional crew on the Swan 36 racing circuit have an RS21 as their own boat and the two companies now cooperate to ensure their calendars don't clash.

The industry clearly faces new challenges but businesses are preparing for the future with an encouraging energy and fluidity gained during the boom period. ■

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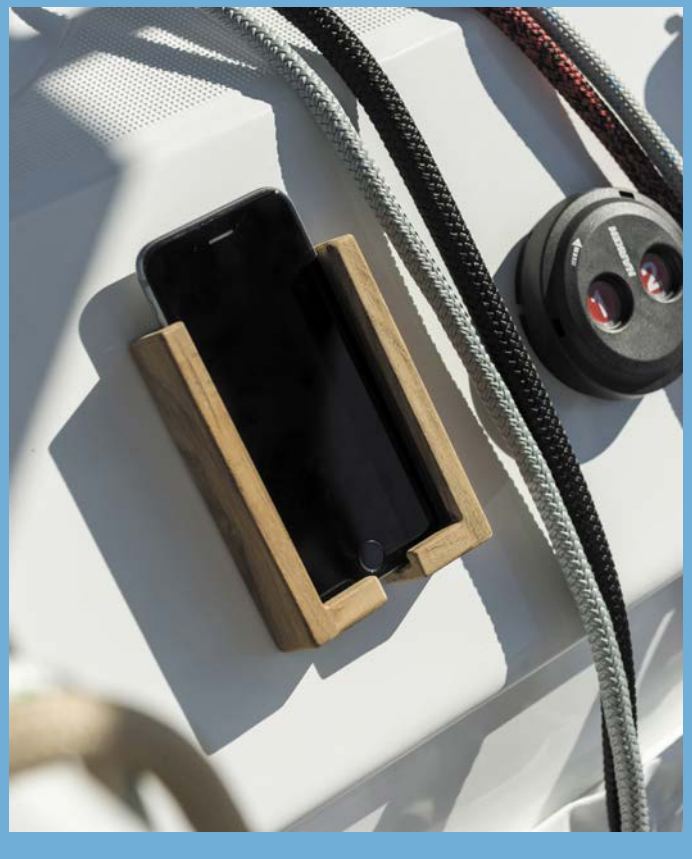

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BRITISH MARINE

Fjords of the

Will emission-free marine tourism pave the way for the recreational boat industry?

Words: Rupert Holmes

Adventure travel is thriving, with visits to pristine landscapes – whether in the Antarctic or the far north – experiencing massive growth. At the same time, legislation to protect such areas has potential to have a significant bearing on the pace of development in other parts of the marine industry.

Regional transition to electric propulsion is no simple feat, but in Norway new government regulations will make zero-emissions mandatory in the UNESCO World Heritage sites of Geirangerfjord and Nærøyfjord from 2026. As a result, the only vessels allowed to operate in these fjords will have to be emission free.

It might be assumed that ferry operators would be left scrambling to meet this deadline, yet two of the three local sightseeing ferries already have 100 per cent electric propulsion, while their older sistership (launched in 2016) has a hybrid diesel/electric system. The ferries, which each take 400 passengers, are run by travel company The Fjords and are built of carbon fibre and powered by twin 450kW motors, giving cruising speeds of 16 knots.

While zero tailpipe emissions can come at the cost of some carbon emissions and noxious pollutants at power stations elsewhere, Norway generates 98 per cent of its electricity through hydro or wind power.

One obstacle in the Norwegian programme, however, was that the local grid could not directly support the charging needs of the boats while in port. Instead of increasing onboard battery capacity, which would unnecessarily increase the vessels' displacement, The Fjords installed a floating recharge dock with a 2,400MWh battery capacity, which could be charged during periods of low local demand each day and recharge the ferries during their 20-minute turnarounds. A useful spin-off is that the recharger also has potential for local use, for instance to charge electric vehicles without needing to increase the capacity of the local grid, thus further smoothing peaks and troughs in electrical demand.

The region's cruise ships are also readying for a zero-emission future. Oslo-based Northern Xplorer (NX), a company founded by Rolf André Sandvik who also founded The Fjords, has released plans for a zero-emission 130-metre cruise ship that will rely on a combination of mains power when in port, and hydrogen and electric power when underway. The company also wants to explore solar and wind power possibilities.

"NX sets a new course for sustainable cruising for thinking travellers, with future expansion providing a gateway to other European destinations both coastal and on navigable waterways inland," says founder and CEO Sandvik.

The extended Amsterdam ban will also apply to the many ferries and tour boats operating in the city

Sandvik says he wants to "walk the talk" on green maritime innovation. The current plan is for a series of 14 NX ships accommodating up to 250 passengers, with the first due to be operational in 2025/2026.

UNESCO sites and far-flung islands aren't the only parts of the world that need protection from pollutants associated with internal combustion engines. Concerns about the detrimental effects of exhaust emissions on health mean that city administrations across the UK and Europe are rapidly adopting stringent controls on vehicles with internal combustions engines.

In many cities the phase-out of vehicles with traditional internal combustion engines is happening at a much faster pace than changes proposed by central governments. Buses running on petrol or diesel, for example,

future

Northern Xplorer. Credit: Sverre Hjørnevik (@sverrehjornevik) and Multi Maritime

Ika Rere *electric ferry. Credit: Stellar Studio*

Geirangerfjord in Norway. *Credit: Øyvind Heen and fjords.com*

are already banned from central Amsterdam and in 2025 this zone will be expanded to the whole area inside the A10 ring road, which passes just outside the Amsterdam RAI, home of METSTRADE.

The extended Amsterdam ban will also apply to the many ferries and tour boats operating on the city's waterways. That might appear to be another tall order to achieve but conversion work is already well underway on existing boats in Amsterdam.

In Berlin, Berliner Wassertaxi is preparing for a more environmentally friendly future and has converted its 20-metre, 55-passenger sightseeing boat and water taxi from diesel power to a fully integrated all-electric propulsion system by Torqeedo. The sightseeing boat is the city's first retrofit electric tourist boat and has a Deep Blue 50i electric drive, plus three Deep Blue batteries with 120 kWh capacity.

In fact, cities have been showing the industry the way for many years; electric water buses, for example, have been ferrying passengers across the canals at La Rochelle and Les Sables d'Olonne on the Atlantic coast of France for more than a decade. Both routes use lightweight catamarans with extensive solar arrays to minimise the power from the grid.

We have a tendency to assume that sustainable options are automatically more expensive than conventional craft, however, that's not universally the case once full lifecycle costs are factored in.

In New Zealand, East by West Ferries has launched the country's first fully electric, zero-emission passenger ferry. The *Ike Rere* is a 132-passenger all-electric ferry with lifetime costs projected to be 35 per cent less than a diesel-powered aluminium boat over a 20-year lifespan. Key factors in this saving include a predicted 60 per cent reduction in propulsion energy costs, plus electric motors rated for 50,000 hours of maintenance-free operation.

Designed by SSC Marine, the *Ike Rere* will operate on a 25km route across Wellington harbour at a service speed of 20 knots and carries a third more passengers than existing craft. It was built by WebbCo of lightweight carbon fibre, with structural engineering by Gurit and is powered by Danfoss' compact Editron marine drivetrain. "Our two other diesel ferries use about 250,000 litres of fuel a year between them," says East by West managing director Jeremy Ward.

We have a tendency to assume that sustainable options such as these are automatically more expensive than more conventional craft.

"It's not sustainable for the planet and I knew electrification was the answer. I was surprised to discover we were the first in New Zealand to be doing it."

Erno Tenhunen, marine director of Danfoss Power Solutions' Editron division, says: "Shipowners are now choosing to implement electrical solutions on board because of the conjunction between technological advances and the availability and cost of renewable energy. Batteries are becoming more compact and their price is falling, making electrified vessels more cost-effective and appealing to owners."

In many respects what may be regarded as futuristic technology is already proven to work. What is needed is larger regulators to take the lead on setting emission targets. As seen in Norway, if a strong stance is taken then a ripple effect will be felt throughout the industry with tech advances and uptake likely to follow. ■

SSC Marine's electric ferry

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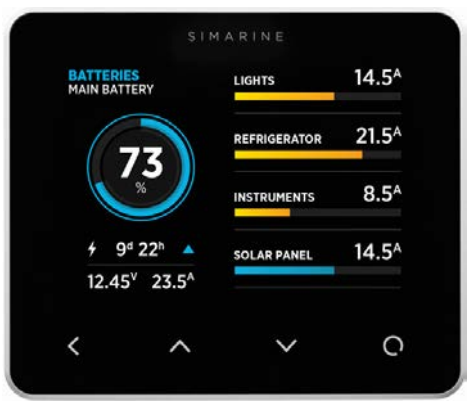

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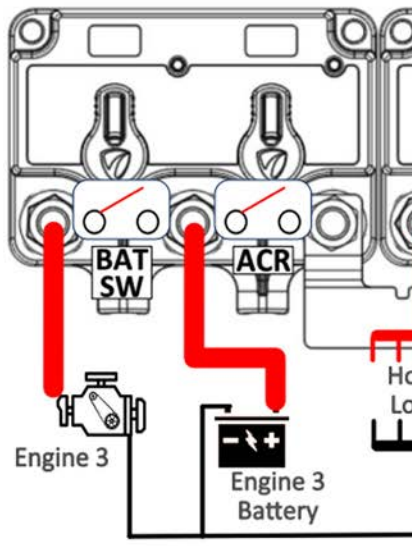

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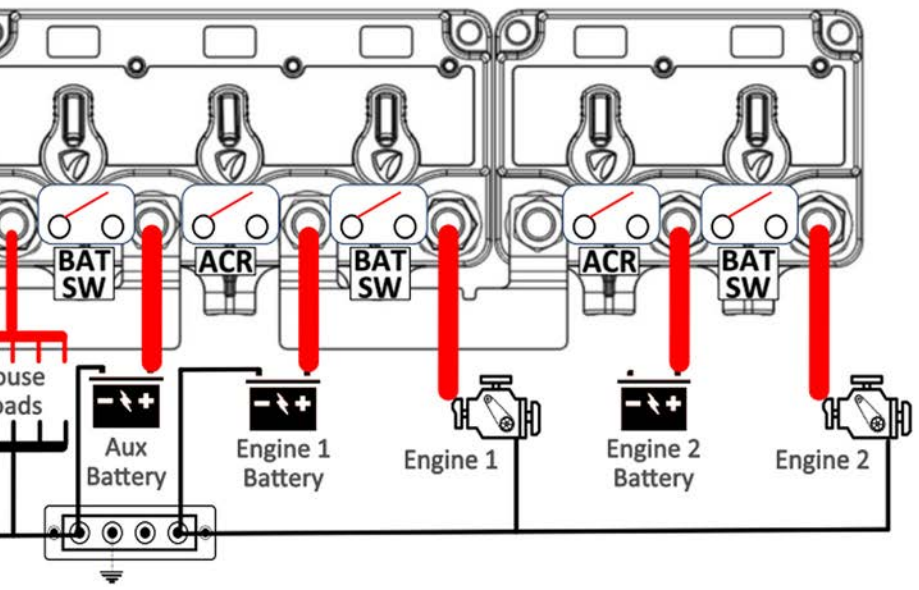

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The composite **bullet**

A new UK consortium plans to lead the world in high-level composite waste processing, recycling and reuse – **Blue Composites Project's James Scott-Anderson discusses why the industry cannot afford to continue to look the other way.**

Approach a bank with the following business proposition: take what is rated as hazardous material waste, spend millions of pounds to bury it in the ground and then repeat on an annual basis. One wouldn't get very far. Shamefully, though, this is the current solution in the UK for the majority of our composite waste.

The Blue Composites Project was announced at the 2022 Green Tech Boat Show

In 2019, Composites UK estimated that in England alone, £29 million was commercially landfilling composite waste. For a G7 nation where composites are being used across multiple sectors and often in the production of high-value luxury products, this is simply unacceptable. Neither should a situation be tolerated where highly polluting boats can be abandoned anywhere, causing high impact, environmental damage.

A new vision for composite waste

In the marine industry, the challenge of end of life boats (EOL) continues to be a pressing concern. There is no requirement for fully registered boat ownership in the UK, or a centralised database with this information so it is almost impossible to track down the owners of abandoned end of life (EOL) vessels. The cost of dealing with EOL vessels is a lengthy one, expensive and invariably falls on the marina or local authority. We also have no proper facilities where boats and composite waste can be processed at a high level.

The UK's Blue Composites Project has been set up to change this. Announced at the Green Tech Boat Show in June 2022 and headed up by new sustainability consultancy Blue Parameters, the Blue Composites Project is aiming to create the UK's first glass fibre composites recycling and reuse facility. Made up of some of the UK's leading marine companies, composites specialists, academic institutions and local government organisations, the Blue Composites Project will not only look at the process of recycling composite materials but also how the reclaimed materials and fibres could be repurposed for use in new composite components.

The consortium is setting up a research and development group at Plymouth University, which will take upcycled composite materials and test them to assess their mechanical properties and potential future applications. By quantifying the mechanical properties of the upcycled composite materials and resins the team can better understand the most suitable applications within existing supply chains and/or manufacturing processes.

The Blue Composites Project will be identifying waste streams and offering all sectors that use FRP and GRP – from the offshore wind industry and construction to automotive and marine – the opportunity to rethink the way

waste material is used. By engaging with designers and engineers to see where the opportunities are for repurposing and using upcycled materials, we can reduce the amount of composite reaching landfill and educate industry and consumers alike.

The tech solutions

Blue Composites consortium member BM Longworth, a Blackburn-based company, has developed its Deecom technology, which can process composite waste at a level where reuse of not just reclaimed fibres, but glues, resins and coatings could be achieved. Polymer manufacturer Scott Bader is supporting testing and analysis of these materials, which may lead to a significant step in life cycle assessment (LCA) for composites and adhesives.

Kevin Matthews, CEO at Scott Bader, says: "Composites have the potential for increasing bio-based composition. An effective EOL solution could result in composites becoming environmentally very attractive as minimal waste and the materials of choice for an even broader range of applications. The project is a really important step in scoping out this future path to sustainability."

"One of the key aspects of the Deecom process is that it separates everything out – so you get fibres, gelcoat, glue, and resins. Scott Bader believes it will be possible to take an awful lot of the separate materials and put them back into the manufacturer of resins, gels and hardeners – thus creating a complete LCA," explains Simon de la Rue, founder of Blue Parameters.

UK circular economy specialist Oakdene Hollins is supporting the Blue Composites Project with technical and environmental analysis – including a formal LCA of the process. Peter Lee, Oakdene Hollins' head of operations, says: "Oakdene Hollins is happy to support this pioneering project; focused on an often underreported waste stream, enabling high-quality recycling and boosting the uptake of quality secondary raw materials."

"One of the key aspects of the Deecom process is that it separates everything out – so you get fibres, gelcoat, glue, and resins."

For the marine sector, the project aims to eventually disassemble boats with the same precision with which they're built – so if there are 300 stainless steel screws in the deck, we get 300 stainless steel screws out.

"Developing processes to take EOL vessels, and understanding recycling methods that will maximise the reuse of all materials, while also looking at the way they are built and designed and how that could be improved in the future with end of life in mind is critical for the future," adds de la Rue.

The UK to lead the world

Composite waste has never been approached in this way but the UK has the unique opportunity to lead the world in composite processing, certification, recycling and reintroduction. We have every piece of the jigsaw needed to begin the testing process and set up the first dedicated facility of its kind. We have identified an ideal site in the south west of England and have approval from the local authority for its use. We are now looking to secure funding for the next stages.

This is not going to be a high value or quick return, and the cost of upcycled materials is going to be more expensive than new. However, the landscape is changing with a growing global awareness that there is a price to pay for long-term sustainability.


Credit: Judy Hilton, Blue Composites Project

Advanced waste management, extended producer responsibility and growing consumer demand for proven sustainable practices, and verifiable ESG, is building. The UK government is committing to high targets and the new Environment Bill is expected to push this agenda.

"Done correctly and combining BM Longworth's technology with mechanical property testing could make it feasible to reuse material otherwise destined for landfill – and find applications for secondary materials in things like bus shelters, in garden panels, in caravans," says de la Rue. "But we have just got to simply stop burying this stuff in the ground – composite waste has been filed under the 'it's too difficult' category for far too long now.

"UK industry has a responsibility to address the issues of composite waste. And if protecting our environment isn't sufficient motivation for some, consider the benefits to business. Supply chain issues have been impacting all sectors. If we can get LCA and quality secondary raw materials, it could result in panels, materials and resins arriving from 20 miles down the road, as opposed to being imported from overseas."

The Blue Composite Project has spoken to businesses across a wide range of industries that use composites and has found a clear appetite for composite recycling and upcycled materials. Other factors may also bring this issue into the fore – the UK has to address the challenge posed by the increasing use of wind turbines and how to process the blades when they reach end of use. It is estimated that there will be tens of thousands of tonnes of GRP and FRP from EOL wind turbine blades by 2031.

In the longer term, LCA will become a standard practice across manufacturing. The technology and ability to take what is hazardous waste and repurpose it exists. The way we deal with EOL vessels can and should change. We must change, we must recycle. This should not be a choice; this is a requirement for a sustainable future for all. ■


Credit: Boatfolk

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Is yachting throwing its future away?

The extravagance of a luxury yacht does not lend itself easily to eco friendly living – but is the tide turning?

One of the most challenging issues for superyacht crew on long journeys is figuring out where to store mounting rubbish without it becoming unhygienic or unsightly. Many large vessels have built-in solutions, including compactors and refrigerated lockers that keep waste from decomposing, but even these can only hold so much. In recent years, sustainable initiatives and technologies for waste management on yachts and on shore have gained momentum.

If you combine a boutique luxury hotel with the ocean and throw in varying regulations and differing infrastructure on land, you get a superyacht trying to manage its waste.

Within its rulings, the International Convention for the Prevention of Pollution from Ships (Marpol) requires all vessels over 100GT, to have a 'garbage management plan'. Larger vessels such as superyachts over 400GT must also carry a 'garbage record book' detailing what happens to the ship's waste – whether that be incinerated, taken on shore, or discharged into the sea. On shore though, crews can find vastly different facilities available for waste and recycling, creating a real conundrum.

Add to this scenario the increased consumer pressure to protect our marine environment, and regional regulations for superyachts and marinas and it's little surprise improved superyacht waste management is a hot topic.

UK-based Superyacht Rubbish is one company providing solutions for waste management onboard. Owner David Gates says much of the challenge of waste management starts with storage. The Marinaut vacuum system seals garbage bags and extracts air to reduce their volume by up to 50 per cent, while helping to reduce odour.

Gates says: "One yacht captain told me he loves the fact that he will no longer need to leave hundreds of overfilling rubbish bags on some island somewhere."

Similarly, Superyacht Rubbish's GLSand is a small unit that can take wine bottles, beer bottles, glass soda bottles, condiment jars, Champagne and other glass bottles and crush them into a fine sand or grit. "In terms of reuse, the commercial sand has many uses and in the future I hope to provide collection points for this within marinas," says Gates.

Cleaner marinas

Upon supplying waste management solutions to superyachts, Gates says he discovered a bigger problem – one that he terms "the industry's dirty little secret". Superyacht waste is strictly managed when at sea, however when in port, regulations only require marinas and shipyards to provide 'adequate reception facilities'. This vague term leads to some marinas providing facilities lacking in credible recycling bins or infrastructure. In addition, some contracts that marinas have with their municipal suppliers are not always transparent and can lead to recycling being taken to landfill or burned illegally.

Gates has now launched the Clean Superyacht Marina Campaign – a project aiming to improve facilities within marinas and expand the culture of recycling at marinas and refit yards.

"As an industry, we produce a lot of waste, and we need to get better at dealing with it," Gates says. "Hopefully, the campaign will help to move this particular industry into a more agreeable space."

A pressing issue for yachts cruising worldwide is the varying regulations and crossing of country borders, which creates inconsistencies for yacht crew trying to uphold their onboard recycling procedures.

"When crew witness all bins being emptied into one truck, they can understandably lose commitment to recycling."

Gates says: "Every country a vessel travels to, sometimes even regions of the same country, have different facilities and regulations." He recognises that the current situation is not good enough, and says "to tailor onboard operations, the crew need to know what facilities each marina provides. When crew witness all bins being emptied into one truck and taken off, they can understandably lose commitment to recycling."

Gates adds: "Unless we can improve transparency about where it goes, then segregating trash may be a waste of time."

Zero to landfill marinas

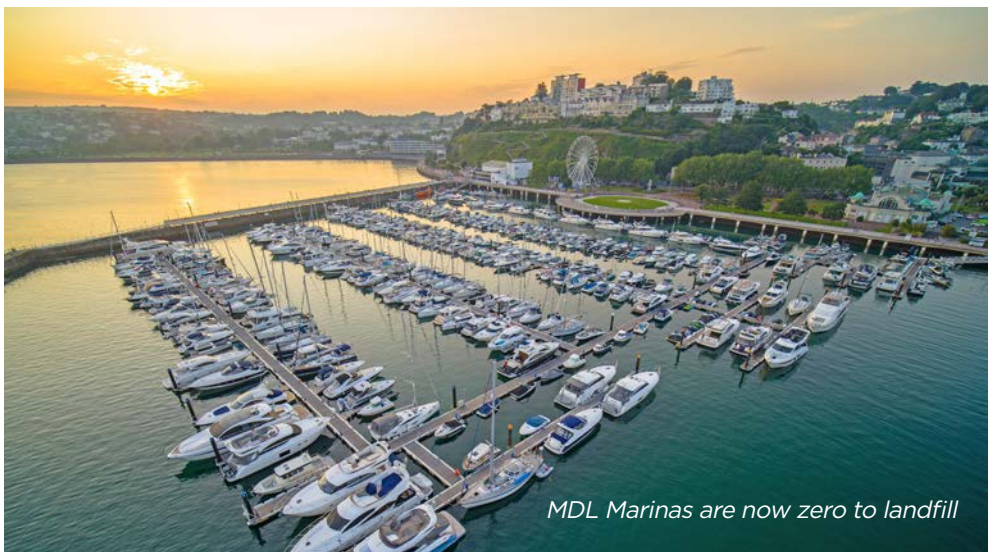
Environmental bodies, along with several marina groups, agree an industry-wide minimum level of recycling infrastructure should be standard at all marinas.

At the most basic level, a yacht should be able to offload debris – be that waste that has already been recycled on board or collections of segregated recycling such as plastic, paper, cardboard and glass, in a designated space.

UK and Europe marina network MDL Marinas says it is set on becoming the most sustainable

Upon supplying waste management solutions to superyachts, Gates says he discovered a bigger problem – one that he terms "the industry's dirty little secret."

Credit: Freepik



MDL Marinas are now zero to landfill

The Marinaut vacuum system

marina operator in the world and has actioned a zero to landfill waste policy. To help achieve this goal, MDL partnered with recycling and waste management specialist Suez.

"Under our new agreement with Suez, no waste will be sent to landfill," says Joe Walton, MDL's head of health, safety and environment. "Everything will now be recycled or recovered, delivering a 'zero waste to landfill' solution."

The contract with Suez enables MDL to increase the amount and type of waste it can recycle at its marinas, from food to ferrous metals. These will then be transformed into new products or used to generate electricity.

Food waste at MDL is sent to approved processing sites for anaerobic digestion to generate heat, which in turn drives a generator to harvest electricity. After the material has been used in this way, it is then turned into fertiliser to be re-used again. Glass waste is crushed and recycled, while steel is repurposed as steel wire. Paper, plastic, cardboard and non-ferrous metals, such as aluminium cans, are also recycled.

Other general waste is sent to an energy recovery centre where it is incinerated to generate electricity, which Suez returns to the national grid, or converted into refuse-derived fuel.

Walton says: "What's more, each new waste bin will be individually microchipped to provide real-time data for each individual collection.

"Being part of the circular economy in this way, as opposed to taking the outdated linear 'take, make, waste' approach, we're able to move in the desired direction of becoming the most sustainable marina operator, ensuring our berth holders are able to enjoy their boating in the most environmentally friendly way possible."

Customer calls

Andrew Lewis, head of marketing at Premier Marinas, says he is "encouraged by the increasing number of queries" from customers asking how waste is managed at the company's marina sites. Premier signed a contract with waste management company Veolia in 2020, which it says is helping the marina company ensure as much recyclable material is recovered from waste discarded at its sites as possible.

"A key issue in the UK is that domestic waste and recycling schemes vary a lot from region to region," Lewis explains.

"As our customers visit our marinas from across the UK and beyond, they will often have experienced different arrangements at home. Working with a single partner across our sites means we can promote a common approach.

Along with general waste and recycling, the company also provides recycling facilities for hazardous waste, including paint, lead acid batteries, oil filters and spent oil. General waste, including food waste from berth holders' boats, is recycled, with some directed to energy recovery facilities to generate electricity.

Waste tech

Further technological advances should also enable a more sustainable waste management cycle to become the norm. In the artificial intelligence and robotics field, at-home (or onboard) recycling solutions are picking up pace. Developing technologies use AI sensors to assess if an item is recyclable and how it should be treated. The item is washed and plastic is flaked, glass crushed or metal shredded. This type of system offers many advantages for yachts as it not only aids in the recycling process but also enables the yacht to store a lot more waste onboard.

What is evident is that the marine industry needs to restructure its approach to onboard waste and follow the five Rs; refuse, reduce, reuse, repurpose and finally, recycle. ■

GREEN SHOOTS

GMBA's David Lewin questions what true sustainability looks like

Credit: Baltic Yachts

The industry finds itself at a sustainability crossroads – bolting on some solar panels, banning the odd hazardous substance and installing an electric motor are all very admirable but done in isolation could be viewed simply as 'greenwash'.

A production process can only be said to be truly sustainable when it is economically sound, emission free and has no negative environmental impact on the surrounding area and population.

Rather than only looking at one aspect of a manufacturing process, sustainability therefore needs to become an all-encompassing state for builders in order to see real change.

Those taking a 360° approach to sustainability include Baltic Yachts in Finland, which has been working for some time on reducing its environmental impact. All the electricity used in its production facilities is locally produced, sourced from nearby windfarms or hydropower. Fossil fuels for heating the production facilities have been replaced by organic, pellet-fuelled furnaces. Since 2017, the company has also been tracking production-related waste, reducing unsorted waste to zero, and waste produced per labour hour by more than 10 per cent. Most production tooling is made from organic and recyclable materials and Baltic can substitute carbon fibre with naturally grown flax in structural laminates by up to 50 per cent in boats up to around 70ft.

Nigel Irens' 8m launch

Before: Interior saloon

After: Setag Yachts refit

Refit revolution

But what is the balance of green electric energy when a boat is made of non-recyclable elements and the energy expended, volatile organic compounds released from moulding, gluing and painting in the workshop and rare metals used in production are shipped from around the world?

In the automotive trade it's said that the most environmentally friendly car is the one you currently drive. Perhaps the same could be said for boats – making a refit the most eco friendly option. At companies such as Setag Yachts, an owner can have a boat refurbished and restyled without having to build a new hull, superstructure and basic engineering – a considerable saving in money and resources.

Since its launch in April 2021, Setag Yachts has secured 32 design and refit projects, with yachts ranging from 33ft-88ft, and budgets of between £10,000 and £1m.

"For people to enjoy new boat quality, there is nothing more sustainable than professional up-cycling. This will dramatically increase the longevity of the boats, therefore reducing the energies and raw materials needed to replace this product," says Setag Yachts CEO, Chris Gates. Setag also relocated to Queen Anne's Battery marina in Plymouth in March 2022, to be closer to its supply chain and ramp up business.

Shape of things to come

Reducing the environmental impact also starts with new thinking. Marina fees are traditionally based on overall length, so boats have become wider with chines for more buoyancy outboard and fuller bows for larger forecabins. These boats then require more power.

If berth fees were based on displacement (or a formula devised on length x beam), development of boats such as *Clara Belle*, a Nigel Irens design, built in 'renewable' cedar strip construction – long and thin, and now recently converted with an electric pod drive built into the rudder, could become the norm.

Speed is another consideration. A leisurely 12 knots, once so acceptable, could be the new normal. With the right hull design, as with Iren's low displacement/length ratio (LDL) series it is also a speed easily attainable in displacement mode. These designs again lend themselves to low energy density/high-torque propulsion systems such as electric.

Nigel's latest project is an 8m LDL plywood launch suitable for electric propulsion or conventional petrol engines. But rather than construct it locally, he is supplying a total list of the requisite hardware plus a CNC programme to cut the 800 parts so that plywood and labour can be sourced close to wherever the boat is being built.

Though this isn't necessarily feasible for other builders, looking at new ways to limit environmental impact does need to start from the drawing board. Those taking a 360° approach could benefit in the long term. The marine industry should find the good examples and emulate them now. ■

Top Gear

Sertec Marine lightning protection

The Sertec Marine CMCE operates as a passive sensor system that provides lightning protection by balancing and deionising the effects of atmospheric phenomena using one or more compensators. By stabilising the existing electric field in its environment, Sertec says the technology creates a 'shield' that essentially drains the electric charges to the earth or surrounding water. This aims to eliminate the formation of lightning within the protected area.

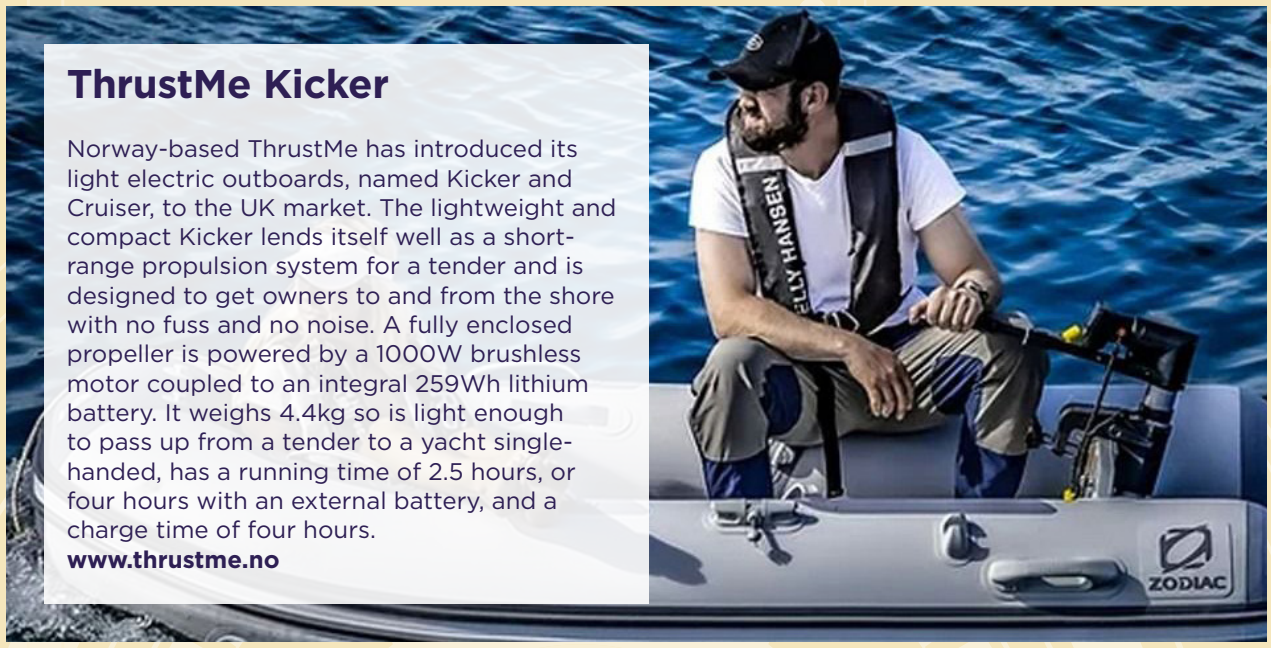
Sertec Marine CMCE requires no electrical power to work, can be retrofitted, is vibration and shock resistant and the technology has been approved by the Tesla institute. To find out more about how Sertec Marine products can protect your vessel contact:
sales@technicalmarinesupplies.co.uk

UK debut for Seaflo

Barrus has recently announced a new distribution agreement with marine and RV product manufacturer Seaflo, and will debut the range at this month's Southampton International Boat Show. Seaflo specialises in the design and manufacture of water system and ventilation products including freshwater pressure pumps, bilge, submersible and inline pumps for the marine and RV markets.
www.barrus.co.uk/divisions/marine
www.seaflo-uk.com

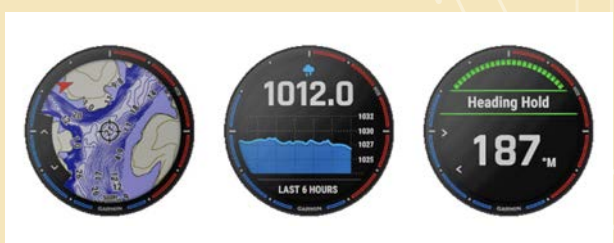
ThrustMe Kicker

Norway-based ThrustMe has introduced its light electric outboards, named Kicker and Cruiser, to the UK market. The lightweight and compact Kicker lends itself well as a short-range propulsion system for a tender and is designed to get owners to and from the shore with no fuss and no noise. A fully enclosed propeller is powered by a 1000W brushless motor coupled to an integral 259Wh lithium battery. It weighs 4.4kg so is light enough to pass up from a tender to a yacht single-handed, has a running time of 2.5 hours, or four hours with an external battery, and a charge time of four hours.
www.thrustme.no



Garmin Quatix 7

The Garmin Quatix 7 provides comprehensive connectivity with compatible Garmin chartplotters and other devices to offer autopilot control, Fusion-Link entertainment system control, integrated tide data on the watch face and more. Owners can use traditional button controls or the new touchscreen interface to access selections. Features for all-day wearability include built-in activity profiles for water and land sports including golf, smart notifications and more. Available in standard, sapphire (AMOLED screen) and solar models – all models bring touchscreen capability when compared with the Quatix 6.
www.garmin.com



AquaMarine cleaning range

AquaMarine, owned by Bainbridge International, has developed a full range of marine cleaners, which includes bilge cleaners, prop cleaners, and cutting compounds as well as deck cleaners and teak protectors.

Manufactured and bottled in the UK, with bottles made from 100 per cent recyclable plastic, the 16-product range caters for leisure and commercial use. It includes a RIB and dinghy cleaner and sealant, boat shampoos and a metal polish and restorer.
www.bainbridgemarine.com

Onward Marine to showcase Douglas Marine & Safe Group

Onward Marine will be showcasing Italian manufacturer Douglas Marine's high-quality cassette ladders and mooring solutions from compensators to self-righting anchor connectors. Douglas' impressive portfolio includes compensators suitable for vessels of 1 to 900 tonnes. Onward Marine will also be displaying Safe Group's products at Southampton Boat Show for the first time this year. Safe Group's selection of lightweight aluminium table pedestals offers a huge variety of different heights and fixing variants. Across the range, user ease remains at the forefront of product development.
www.cquip.com

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