

Young entrepreneur steers the maritime industry to a greener future

Electrifying the waves with sea change ways

“For our 30-year-old company to transform in the realm of sustainability is not easy. It takes a lot of perseverance. But we know that it not only keeps our business relevant, but ultimately, we are really doing something for future generations.
”

— Mr Tommy Phun, director of Eng Hup Shipping and founder of Pyxis

By IAN TAN

In a port that never sleeps, thousands of coastal vessels traverse our waters to keep Singapore's maritime industry at the top of its game.

Tugboats, ferries, pilot boats, survey boats and other coastal vessels navigate around larger ships. They play crucial roles like towing ships, delivering goods or ferrying passengers.

Traditionally powered by diesel, these vessels have long filled the harbour air with noise and smoke.

Mr Tommy Phun aims to change all that. The 33-year-old is at the forefront of the Singapore maritime industry's moves towards sustainability. He recently founded Pyxis, a six-strong tech start-up to help coastal vessels switch from diesel to electricity.

His mission is critical; the maritime industry faces increasing pressure and looming deadlines to reduce carbon emissions.

The Maritime and Port Authority of Singapore (MPA) has mandated that by 2030, all harbour craft in Singapore waters have to operate on low-carbon energy solutions and reduce emissions by 15 per cent from 2021 levels. By 2050, all harbour craft must be fully-electric or running on net zero fuels.

For the shipping sector, it is also about business survival.

Choppy waves of change

"Sustainability is impacting our industry in a very real way," says Mr Phun, who is also a director in his family's 30-year-old maritime services company, Eng Hup Shipping. He joined in 2014 after graduating from the Singapore Management University with a business management degree.

"Many clients have told us that to participate in their projects, we must provide green solutions such as electric vessels, hybrid fuel vessels, or low-energy solutions.

"Otherwise, we won't even be considered for their business tenders."

He adds that going green is no longer a "nice to have", but a "must have". "The push towards decarbonisation is one of the biggest storms we've ever faced."

Mr Phun and his colleagues are focusing on the long-term solution of retrofitting existing vessels with full-electric propulsion systems, including the 70 coastal vessels owned by Eng Hup.

The rugged diesel engines that have chugged along for decades will be replaced by state-of-the-art electric batteries and motors, giving them a new lease of life and reducing waste.

Eng Hup is also part of a new consortium led by Keppel Offshore & Marine to help drive maritime electrification. It is currently retrofitting an existing passenger ferry to become fully electric-powered by 2025.

It is not a simple affair of swapping engines. Mr Phun discovered that transitioning to electric propulsion isn't just a matter of technology; it's about having the company's employees on board to drive change.



Before joining the company, Mr Phun played a key role in Eng Hup's acquisition of Bee Sin Shipyard in 2012.

PHOTOS: ENG HUP SHIPPING

Changing mindsets and skill sets

Mr Phun (below) feels that this transformation will not eliminate jobs; it entails revamping existing jobs and creating new opportunities.

"At Eng Hup, we have a team of mechanics who have been with us for 30 to 40 years," says Mr Phun. "They are very good at repairing engines, gearboxes and changing filters. As we electrify our fleet, their reskilling is very important because we want them to continue with us on this journey towards a greener future."

His mechanics were initially hesitant about Eng Hup's electrification plans.

"The veterans asked if electrical motors could travel the same distance as diesel engines. They said they were not used to operating these newer systems. But they have been receptive because they can see where the industry is headed."

The electrification of engines does away with the tedious and grimy work of maintaining diesel engines. Like electric cars, the electric vessels will run quietly on batteries and electric motors.

The shift to electric also ushers in greater digitalisation, as each vessel can now generate and transmit detailed data such as energy usage and provide early warnings for potential issues.

Mr Phun's trailblazing initiatives have been noticed.



He was appointed by MPA in 2020 as a digitalisation ambassador to share best practices with the wider industry.

Driving sustainability also changes the way coastal vessels are piloted.

"A coastal vessel running on diesel can operate for many hours and has a longer travel range than an electric vessel," says Mr Phun. "For electric vessels, we have to operate them in short durations and optimise their travel routes and tasks."

His start-up, Pyxis, is building a new electric coastal vessel, due to be launched later this year. The design draws on the insights gleaned from current electrification efforts, and the collective seafaring wisdom of Eng Hup's experienced employees.

Harnessing youth and experience

While sustainability is crucial to the future of the maritime industry, so too is the nurturing of a new generation of maritime professionals.

Mr Phun shares that Eng Hup, which has close to 300 employees, is still actively hiring and is striving to attract younger talent by reaching out to tertiary institutions and other industries.

"To transform the maritime industry, we require a lot of new talent to come in," says Mr Phun. "But maritime is seen as a very traditional industry and it is not easy to hire young people."

This is why he has positioned Pyxis as a technology company operating in the maritime trade, rather than a

maritime company trying to develop technology. "This has made a difference in getting young people from different industries interested."

"Yes, we still have to work in a shipyard, we still have to go out to sea, but we are giving young digital natives the opportunity to create new revenue streams and transform existing processes with their knowledge of technology."

He adds that the young have strong views on sustainability. "I recently interviewed this lady in her mid-20s who is keen to join Pyxis because she wants to contribute to a more sustainable future."

"She is even willing to take a pay cut from her current job because she feels a strong call to action."

Mr Phun adds that the experienced employees are also keen to learn from, and share their experience with, their younger counterparts. Over a third of the company's workforce is above the age of 50.

"The older workers have experience on board ships and at the shipyard that you cannot learn overnight, and they also have a passion that has kept them going for many years."

For Mr Phun, his efforts at both Pyxis and Eng Hup are not just about combating climate change, but creating a sustainable workforce.

"Port shipping is the world's most efficient form of cargo transportation, and we need to have new people come on board to replenish the workforce." Referring to Eng Hup, he says: "For our 30-year-old company to transform in the realm of sustainability is not easy. It takes a lot of perseverance."

"But we know that it not only keeps our business relevant, but ultimately, we are really doing something for future generations."

● *Building Sustainable Cities is a series sharing insights on how individuals and businesses can take action to forge a cleaner, greener tomorrow.*



Scan the QR code to read more stories from the series

On course to go green

While it is beneficial for businesses to embrace sustainability, more work is needed to increase the pace of adoption, says UOB's Business Outlook Study 2023.

Conducted between December and January, UOB surveyed 823 companies in Singapore to gather sentiments on adopting sustainability practices. Here are some key findings.

2 in 5

companies claim to have started implementing sustainability practices, with another 25 per cent in the discussion and planning stages

76%

say that sustainability is important to the business, up from 60 per cent in 2021

Nearly 8 in 10

claim to have made net zero commitments, with 22 per cent saying they intend to reach their net zero goals by 2030



Start your sustainability journey now

United Overseas Bank Limited Co. Reg. No. 193500026Z



Complete a simple online assessment to get your sustainability report with clear, actionable steps that are tailored to your business sector and sustainability maturity stage.

As the One Bank For ASEAN, this is how we do Right By You.

Get your free report in 5 minutes:
uob.com.sg/compass

