

Sun, sand and a solar boat

A Thai-built, sun-powered catamaran is making waves around the world

- Published: [7/12/2014](#) at 06:00 AM
- Newspaper section: [Brunch](#)

When German-Colombian Caroline Leib approached Europe's major shipyards in 2009 with the idea of building a solar-assisted luxury catamaran, they told her she was crazy.



Four years later, with the help of Pattaya's Bakri Cono Shipyard and Thai company Albatross Marine Design, her dream became a reality, as the new twin-hulled boat was launched into the waters of the Gulf of Thailand.

Called a Heliotrope 65, the solar-assisted catamaran "produces [up to] 7kw/h, which allows you to run everything on the yacht: all the LED lights, the cooker, washing machine, dishwasher, the navigation system and water maker", Ms Leib said.

"The idea is ... to get people to ... see that something can be done [about climate change]."

The yacht even harnesses rainwater through chambers between the gutters on its fly

deck, which is stored in its two 528-US-gallon filtration tanks and can then be reused. All the electrical fittings are powered entirely by its 24 square meters of solar panels, including the 5 televisions and 14 underwater lights.



Sea cells: Caroline Leib wanted a more environmentally friendly vessel, and now has the Heliotrope 65 with 24 square meters of solar panels.

PERFECT POSITIONING

Since the Heliotrope 65 was launched on Dec 21, 2013, it has been showcased in France and Singapore. The solar technology used on this yacht has since been fitted to a series of similar craft — the Heliotrope 48, 80 and 105 — which differ from the 65 in length, interior layout and design.

Philippe Guenat, the director of international sales at the Pattaya-based Bakri Cono, says Thailand is the best place to create a new market for luxury yachts because of its central location in Southeast Asia.

Mr Guenat added that there is a lot of potential for the Heliotrope series of catamarans to be used for charter and cruising, which is big business in Thailand and part of the Kingdom's multibillion-baht marine tourism industry.

Unlike the majority of luxury yachts now being used, the Heliotrope series are catamarans, a design which allows them to go into shallower waters than traditional mono-hulled yachts. Catamarans have also become very popular in Thailand's South, where people cruise from island to island, and because of their design they also have more interior room.

Another plus for tourists or locals hiring, or chartering, these catamarans is they don't

need to know how to hoist sails — these boats don't have masts or sails but are driven by internal engines.

"We have the quality of know-how that very few countries around the world have," Mr Guenat said. "Thailand has two naval architecture schools. They're schools where people enter at 15 or 16 and finish at 18."

Every year, the Chemstar Nautical School sends students to Bakri Cono for three-to six-month long internships, and during their time there they become acquainted with the solar technology the shipyard uses.

Although Kasetsart University's International Maritime College has yet to send interns to Bakri Cono, it started incorporating solar technology into its curriculum a year ago, said Ratthakrit Rearbroy, a professor at the university. Students at the university also recently completed a solar-powered catamaran prototype, which they hope to use for eco-tourism in southern Thailand.

Mr Guenat added that the main producers of solar panels are in China, Japan, the Philippines and Malaysia.



Green screen technology: An employee at Dr Green Innovation explains the PowerFilm solar panels.

'CELLING' THE IDEA

Despite having easy access to solar panels in Thailand, there are still challenges when it comes to building yachts that use them, said Mr Guenat.

On top of a 10% import duty for solar technology products, which are regarded as

luxury products, there is an additional 10% luxury tax, he said.

"When [the government] sets the [import duty] price, they take into account the price of the product, plus the shipping, plus the profit margin [of the importer]," he explained.

However, this problem may soon be solved because Dr Green Innovation, a Bangkok-based solar panel supplier, recently introduced a new type of solar panel.

Unlike the conventional panels the Heliotrope 65 uses, which has large cells, the new PowerFilm model has smaller cells, making it more efficient at storing energy.

"When cells are small, and you have shade, the impact is on each cell," said Tanyarit Pantarawong, the head business consultant at the company. "With bigger cells, and a bit of shade, the entire cell is affected."

PowerFilm is also lighter than the panels used on the Heliotrope 65, weighing only 11.5kg per 300w, as opposed to 28kg.

The company also has staff throughout Southeast Asia to train clients on how to take care of the panels in storage, as well as once they are installed.

Having people with such knowledge is important, said Raphaël Domjian, who co-navigated the first solar-powered boat, Tûranor Planet Solar, around the world in 2011.

"There is nobody to do the maintenance because there are [not many] solar boats. If there is nobody to do the maintenance, nobody will buy a solar boat," he said.

Mr Domjian, who is also a member of Bakri Cono's advisory board, says the potential for solar energy is huge, and not only for the marine industry.

"Most boats are not sailing every day. If you put solar cells on [every] boat, one day the marina can be the generator for a city — for Pattaya, for Phuket, for everywhere in the world," he said.



Novelty: Left, guests tour the Heliotrope 65 at the Ocean Marina Pattaya Boat Show.

NOT QUITE GREEN

The Heliotrope 65, which was shown to the public at the Ocean Marina Boat Show in Jomtien late last month, and the entire Heliotrope series, have drawn interest from more than 65 potential clients in North America, Europe and Asia.

While the 65 reduces emissions by powering everything on board with solar energy, it still relies on two 500hp diesel engines to move.

The Bakri Cono team says this is something they would like to change in the future, and that day will come when technological advances enable more solar energy to be stored.



Vantage point: The Heliotrope's bow.



Efficient: The layout of the Heliotrope 65.



Take the wheel: Right, the Heliotrope 65's lower helm.

About the author

Writer: Adam Gamble