Tour on solar-powered boat to beat climate change

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The PlanetSolar catamaran at the Calvi's harbor in Corsica, France, on May 1. Swiss electrical engineer Raphael Domjan began his journey from Monaco in September 2010 on the boat he built after seeing the effects of climate change on an Icelandic glacier.

Scanning the horizon on his solar-powered catamaran, Swiss electrical engineer Raphael Domjan counts down the hours to the completion of his record-breaking world tour.

"The idea was not to perform a feat but an eco-adventure with the aim of passing on the message that change is possible," Domjan told AFP-TV as his boat furrowed through choppy waves from Italy's Elba Island to Corsica in France.

Domjan began his journey from Monaco in September 2010 on the boat

he built after seeing the effects of climate change on an Icelandic glacier, and he is due to complete it on May 4 when he returns to the Mediterranean port.

"I realised climate change was real and I had to do something," he said.

The 31-metre (102-foot) white Planetsolar, with 537 square metres of black solar panels mounted around a raised cockpit, cost 15 million euros to build, and the project only became possible after Domjan joined up with German businessman Immo Stroeher.

Domjan, 40, and his crew, including a captain, a chief builder and a mechanic, are hoping that their exhausting but historic 600-day journey will herald a new era in eco-friendly travel, particularly in the tourism sector.

After crossing the Atlantic and passing through the Panama Canal, they crossed the Pacific and returned to Europe via the Suez Canal.

There were a few hiccups along the way, including a frustrating three-day wait off the coast of Australia when a storm blocked out the sun.

The are 537 square metres of black solar panels mounted around a raised cockpit aboard PlanetSolar. Planetsolar can produce up to 500 or 600 kiloWatts per hour in good weather -- enough to travel 300 km when the battery is fully charged using engines no more powerful than those on a scooter.

"We have everything at our disposal: the know-how, technology, raw materials and renewable energy to become sustainable and protect the planet," said the engineer, a nature lover who is also a pilot, ambulance man and mountain guide.

Planetsolar can produce up to 500 or 600 kiloWatts per hour in good weather -- enough to travel 300 kilometres (186 miles) when the battery is fully charged using engines no more powerful than those on a scooter.

Everything on board is solar-powered: from the boat's engines and the on-board computers to the hot water and the light bulbs.

"The boat wasn't easy to build, but we built it in a record time of year-and-a-half years," said Jens Langwasser, 28, the chief builder.

"We had a lot of problems with finding the right panels, the right battery. It hasn't been easy. This is solar energy. You go on the road with storms, rain and all types of conditions. You never know what will happen."

As the boat requires maximum sunlight to move, it had to sail as close as possible to the Equator and follow routes that constantly had to change, based on how much sunlight was forecast for any particular day.

"Twice a day we get a bulletin with sunlight forecasts. Sometimes we have to slow down to go through a patch of clouds and find a sunny spot," said captain Erwann Le Rouzic, 40, an experienced sailor.

Erwann said that despite all the frustrations he was thrilled about the implications of solar-powered travel.

"Of course it only works in sunny areas and on some types of boat, and I'm not saying we'll see cargo ships becoming solar powered in 10 years, but now we know it works and there are a lot of possible uses," he said.

Ibor, a resident of Calvi where the ship arrived on one of its final legs of the world tour, said he was impressed.

"There's no two ways about it. This is the future. No doubt about it," he said.

Raphael said he has managed to show to industrialists, businessmen and politicians that his were not just fantasies from the novels of Jules Verne such as "Around the World in 80 days", but feasible ideas.

His first victory is already secure. As the Planetsolar was passing the Galapagos Islands, the government there decided to ban access to one of the archipelago's islands to all boats except for solar or electric-powered ones.

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