

# SUNRIDER SOLAR-POWERED BOAT

➤ KERALA, INDIA



“THE SUNRIDER SOLAR BOAT POWERED BY TROJAN BATTERIES IS IDEAL FOR ACHIEVING RESPONSIBLE AND SUSTAINABLE TOURISM IN A WIDE RANGE OF LOCATIONS THAT REQUIRE ECO-FRIENDLY BOATING OPTIONS, SUCH AS IN WILDLIFE BIRD SANCTUARIES.”

**GEORGE MATHEW** ➤ CEO, TEAMSUSTAIN, A LEADING GLOBAL CLEAN AND GREEN TECHNOLOGY SOLUTION PROVIDER

➤ LOCATION	➤ CHALLENGE	➤ SOLUTION	➤ OUTCOME
Kumarakom Lake in Kerala, India	To address the water, air, and noise pollution from popular, diesel-powered tourism boats.	SunRider solar boat utilizing Trojan deep-cycle batteries with Smart Carbon™.	100 percent reduction in the boat operator's carbon footprint.



**4-HOUR DAILY RUNTIME**

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**14,600 FEWER LITERS OF DIESEL FUEL PER YEAR**

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**40 TONS DECREASE OF CO<sub>2</sub> EMISSIONS PER YEAR**

## LOCATION

Kumarakom is a popular destination famous for its backwater tourism located near the city of Kottayam in Kerala, India. It is set in the backdrop of the Vembanad Lake, the largest lake in the state of Kerala.

## CHALLENGE

Conventional boats running on diesel and gasoline have been the primary mode of waterway transportation since the early 1900s. However, they are expensive to operate and require considerable maintenance. In addition, the distribution of exhaust emissions, the considerable noise of the boat engines, and the fuel and lubricant residue dispersed into lakes and rivers have a harmful impact on the environment.

## SOLUTION

Considering the growing popularity of “Eco Tourism” throughout Asia and the need for waterway transportation by local residents, especially in India, TeamSustain designed and developed a solar-powered boat called SunRider.

Trojan deep-cycle batteries with Smart Carbon™ were selected for the SunRider solar boat based on their reputation for high quality, reliability, and proven ability to withstand rigorous conditions of renewable energy applications and the intermittent nature of solar power generation.

## SYSTEM SPECIFICATIONS

- Batteries: Trojan SPRE 06 255\* - 6V, 824Ah @ 48V
  - Qty: (32) batteries for 20-passenger boat
  - Qty: (16) batteries for 10-passenger boat
- Solar Panels: Emmvee Solar, ES 300 M72
  - Qty: 12 (3.6 kWp) panels for 20-passenger boat
  - Qty: 6 (1.8 kWp) panels for 10-passenger boat
- Charge Controller: Outback FM80 (80A @ 1040F) with adjustable current limit

*\*The Solar Premium SPRE 06 255 battery was previously known as the T105-RE battery.*

## OUTCOME

**The SunRider solar boat has a runtime of four hours each day, reducing diesel fuel consumption by 14,600 liters per year and CO2 emissions by 40 tons a year. SunRider also helped this TeamSustain client earn a “Green Tag” designation, which recognizes the project for its positive impact on the environment.**

## BATTERY SOLUTION



- 7+ Year Life Span
- Withstands Harsh Conditions
- Lowest Levelized Cost of Energy



## PARTNER



[www.teamsustain.in](http://www.teamsustain.in)

CHARGING  FORWARD

**For More Information** / [www.trojanbattery.com](http://www.trojanbattery.com) / [www.teamsustain.in](http://www.teamsustain.in)

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Trojan batteries are available worldwide and backed by outstanding technical support provided by full-time application engineers.

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