



香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust



Green Journey

Solar-powered Golf Carts Solar-hybrid Catamaran

Fact Sheet



The Hong Kong Jockey Club Charities Trust has earmarked \$350 million to launch a multi-year Environment Project in 2008, an initiative to raise public awareness and carry out extensive public education on environmental sustainability issues that have profound and lasting effects on our community. The Trust is partnering the Jockey Club Kau Sai Chau Public Golf Course to introduce two green technologies as demonstration projects, thereby achieving energy savings at the same as promoting environmental protection to a wider audience.

Solar-powered Golf Carts

The Golf Course has converted all of its 205 golf carts to a purpose-designed solar-powered system, making it the first golf course in the world to apply this system to its entire fleet of golf carts.

Design and Production

The purpose-designed solar power system was jointly developed by the School of Design of The Hong Kong Polytechnic University, SolarDrive ApS of Denmark, locally-based Vedbaek Concepts Ltd and The Jockey Club Kau Sai Chau Public Golf Course.

Advantages and Features

- Converter Box Advanced Technology provides a conversion rate of solar energy of up to 99%. Solar power is stored in the golf cart batteries. It is estimated that electricity consumption will be reduced by at least 30% while the total consumption of grid electricity for the fleet will be reduced by between 50-75%.
- Solar cells can last for at least 15 years while the battery life is doubled from 2 to 4 years, thus reducing chemical waste.
- The solar-powered carts can operate for the entire day with recharging, doubling the time of conventional golf carts.
- Reduction of CO₂ emissions amounts to 30 tonnes per year
- Annual savings from the extended battery life alone are estimated to be around HK\$390,000



Solar Golf – solar-hybrid catamaran

Length: 24.13 metres

Width: 6.75 metres

Passenger capacity: 100

Crew: 3

Advantages and Features

- The vessels have hybrid solar-powered electrical and diesel-powered engines, which can operate in parallel when crossing between Sai Kung and the Jockey Club Kau Sai Chau Public Golf Course. They are estimated to achieve a 50% reduction in fuel usage.
- The solar panels can last for at least 15 years.
- The use of lightweight materials in the hull also helps save energy.
- The electric motors are deployed while berthing or staying head-on to the pier, so noise and emissions are kept to a minimum within the harbour area. Noise is also reduced on the journey as the engine room is located aft and outside the passengers compartment.
- As the diesel engines use ultra-low sulphur fuel, the carbon dioxide (CO₂) emissions are greatly reduced.



Estimated fuel savings

Annual consumption	498,000 litres * annual consumption of existing ferries total 972,000 litres
Fuel savings	474,000 litres
Cost savings	HK\$2.5 million
CO ₂ emissions reduction	1,247 tonnes