

Solar boat project

Imagine a powerboat so quiet that all you hear is the chuckle of the water passing the bow and the currawongs on the far shore. A boat that doesn't travel along with its own cloud of exhaust gases. A boat that harvests its own fuel from the sun while travelling and while bobbing on its mooring. A boat that honours the traditions of nautical craftsmanship and that leaves only a wake in its path...

At the Torqeedo Shop we've been searching for such a vessel and we think we've found it in the Sienna solar electric launch. From Scruffie Marine of Tamborine Mountain, she's a balance of traditional style and fitout matched with the low maintenance and strength of modern materials. From the drawing board of Derek Ellard (and that's refreshingly true—Derek designs with pencil and paper to keep a good feel

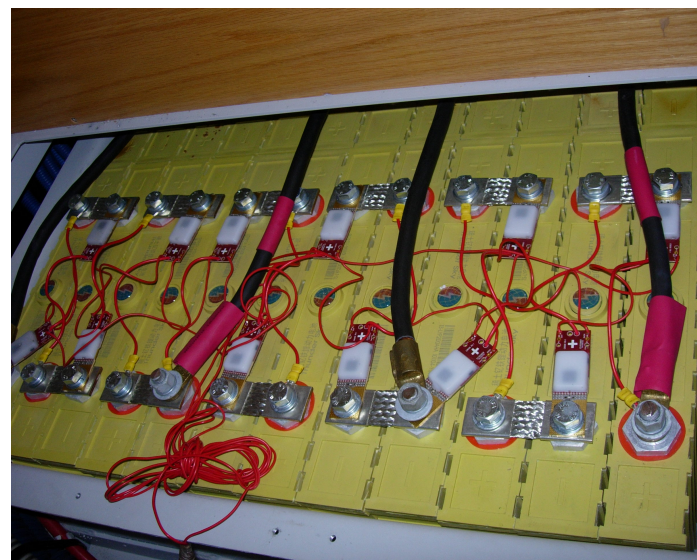


for his boats), the Sienna's lines are a blend of Essex smack and African Queen.

At the Torqeedo Shop we've matched her with the right balance of batteries and motor to suit a gentle afternoon cruise on Pittwater. She has a Torqeedo Cruise 2 for propulsion and a combination of Solara solar panels and Thundersky lithium batteries to supply the power to the motor. She's run at full throttle for about 5 hours, and at cruising speed she can go all day.

You may have seen experimental boats in the pages of New Scientist magazine or as an imaginative ideal of what might be. But the Sienna electric boat from Scruffie Marine is real. She's here today and testament to Australian craftsmanship and design. She takes the best from around the world but her heart is Australian and built at North Tamborine using lovely Australian timber such as Queensland Red Cedar for the main structural parts of the fitout.

Her designer hails from Merry England and you can see hints of Derek's boyhood in this design. The fishing smacks of



Essex were his playground and he's honoured the lines of these efficient sailing boats in the hull shapes of this design. The value for us in this tradition is that she's easily driven and will make the best use of the power stored in the battery bank.

And its not only the underwater shape that comes from our roots—her shear line and her many nautical details painstakingly crafted from cedar and oak reflect a bygone era of pride of craftsmanship. From the ships bell to the wooden spoked steering to the timber mooring cleats, she's a delight to behold.

You may too might find it a delightful paradox that she is fitted with the technologically advanced electric motor from Torqeedo and the best marine solar panels also from Germany. In testing here in Australia as well as in Germany the Torqeedo electric outboards have been shown to have about double the efficiency of competing electric outboards. The Solara panels are the choice of singled handed sailors such as Ellen Macarthur for powering their electrical systems in the most adverse sea conditions.

Her batteries are sourced from the oh-so Chinese named Thundersky batteries—these are also technologically at the head of their field in large format prismatic cell lithium batteries. Used in electric vehicles the chemistry of these cells is lithium-iron-phosphate which is perhaps the most thermally stable of all the lithium-ion chemistries. You may have heard of problems of overheating with some laptop batteries but you'll find that these are the lithium-cobalt variety, and we've deliberately stayed away from this type of cell. We're also loading them only very lightly compared with their high current capability. They have a cyce life ten times that of typical high quality AGM lead acid batteries and can be left at a low state of charge without damage. These are ideal cells for use on a solar powered boat.



Power	Speed	Range (hrs)
2200 watts	6 knots	5
600 watts	4 knots	20
300	3 knots	40

Sienna's are built to order and you may want to contact Derek and Annette of Scruffie Marine who will help you choose custom setup to suit your use. And if you'd like to try one first, you'll be able to hire one from the Torqeedo Shop based in Pittwater, on the northern beaches area of Sydney. For a limited time we are offering special rates.

Scruffie Marine 07 5545 1015
www.scruffie.com

The Torqeedo Shop 0409466271
thetorqeedoshop.com.au

Specifications

Comforts

- galley including sink and fridge
- composting marine toilet
- fully enclosed head
- separate cockpit
- generous lounge area
- drop down clear screens for weather protection

Safety

- built under NSW maritime survey requirements
- VHF radio for shore contact
- chart plotter for easy navigation
- depth sounder

Hull Design

- low drag hull shape in the Essex Smack style
- designed by Derek Ellard of Scruffie Marine
- long keel for protection when grounding
- good form stability
- built under survey for maximum safety

Fitout

- extensive use of Queensland Red Cedar
- modern composite panels for strength and lightness
- joinery and fitout by Scruffie Marine craftsmen

Propulsion

- Torqeedo - highest efficiency outboard available today
- outboard maximum power matched to hull design
- fitted in a dedicated well out of the way

Battery power

- high power to weight ratio lithium cells
- individual cell protection to maximise safety
- master control unit to manage charge and discharge
- lithium iron phosphate chemistry for cool operation

Solar panels

- low profile stainless steel backed panels
- low profile to provide minimum drag
- low profile for visual amenity
- designed for marine use ensures longevity