



**JUGEND MEERSEGELN
OCEAN YOUTH SAILING**
EINE INITIATIVE DES JUGENDSEGELN STECKBORN

Ocean Youth Sailing

GreenVision



No Diesel

No CO₂

No Noise

OCEANYOUTHSAILING.COM



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The Ocean Youth Sailing pursues three goals. One of which is to promote environmental awareness of our youth and young adults. Therefore, we would like to reduce our ecological footprint to a minimum on our catamaran (Schionning Arrow 1360).

For this purpose we have set the following **challenges**:

- Educate the youth in the subject of energy consumption, power generation and life cycle assessment
- No use of diesel for propulsion purposes
- Covering the on-board electricity requirements by means of renewable energy sources

Technical Feasibility Study

By making use of two modern electric motors in combination with powerful Lithium-Ion batteries we can propel our catamaran without diesel fuel in normal operation. Under sails the batteries can be recharged over the electric motors. The drive propellers are used as hydro generators. Additionally, a photovoltaic system is installed to cover our daily energy need. In case of an emergency a back-up generator is available.

In order to achieve a similar safety standard as with a conventional diesel system only marine-certified electrical components are used. Two separated propulsion systems are installed with a back-up system for maximum redundancy. The system runs on low voltage. Hence, there is no danger to passengers or crew in case of water intake or system failure. These safety-related requirements increase the investment costs significantly. By installing a hybrid propulsion system we could decrease the operational cost and the detrimental influence of a diesel engine on the environment remarkably.

Budget

The initial budget was based up on two diesel engines. To translate the **GreenVision** into reality we need an additional CHF 30'000.-, despite first commitments for material sponsorships.

Support **GreenVision**

Did we spark your interest in our **GreenVision** project, and you would like to support sustainable sailing? We are looking forward to your financial or material contribution.

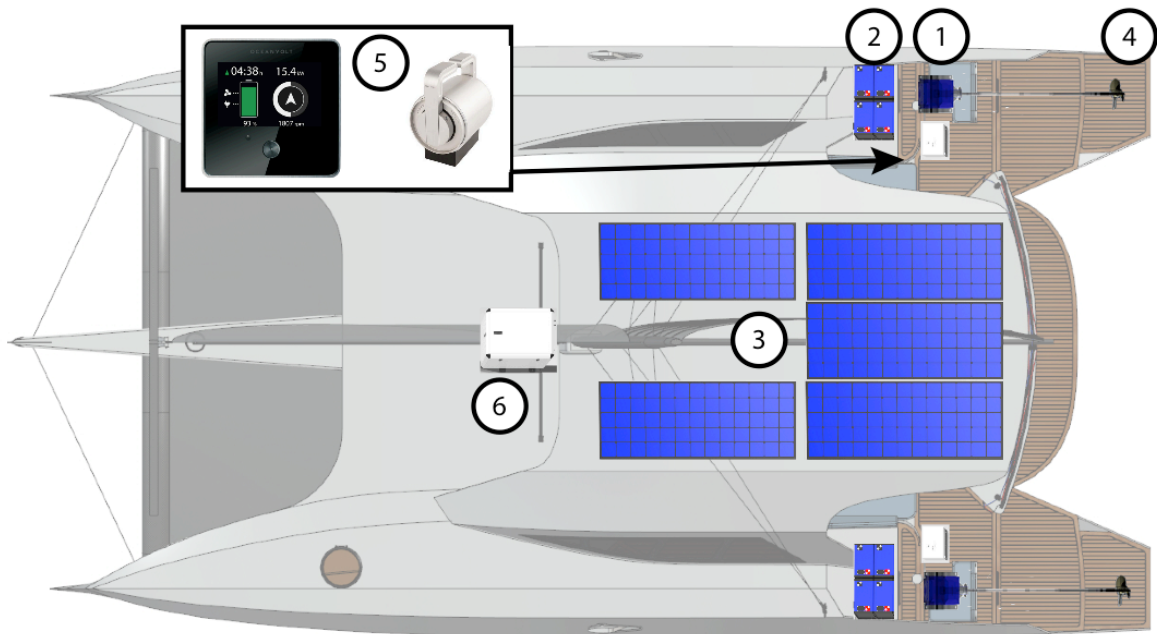
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At a glance: Energy supply system of our catamaran



- 1 Electric motors with full torque at any speed
- 2 Battery bank with sufficient capacity for normal operation
- 3 Solar system for power generation
- 4 Energy recuperation system with electric motors
- 5 Two-sided complete control panel with display of power usage and remaining operation time
- 6 Back-up generator for emergencies