THE TRUE HYBRID

LAUNCHING
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What is the difference between a SOLARWAVE® yacht and a conventionally powered yacht?

Conventional motoryachts are powered by diesel- or gas-engines. Additionally they use to have a Generator on board to supply all household appliances.

Depending on the size of the yacht, in sum 3 or 4 diesel-engines are working for propulsion and household.

Also Sailing-Yachts need a diesel-engine. Depending on the operational area and the wind- and weather-conditions, additionally to the sails a diesel-engine is needed for the propulsion of the boat.

When anchored in a quiet bay, the diesel-engine ensures the energy-supply of the consumers.

Most yachts are using gas for cooking. Its open flame heats up the interior of the yacht - and - gas is dangerous.

On many yachts the "consumables" like water and energy are configured in a way, that forces the skipper to visit a marina every two or three days to charge the batteries and to buy water for shower as well as for drinking. Larger Yachts offering more luxury have watermaker, air-conditioning and generators.

They do not need to got to a marina - but they have to run the generator.

The use of a combustion-engine is inevitably combined with noise, exhausts vibrations and oily films in the water. Is it that, what you are looking for in an otherwise quiet bay?

A conventionally powered boat has a range of 300 to 500 nautical miles under diesel-engine. With a sail the range can be extended - but only when the wind is coming from the right direction and in matching force.

SOLARWAVE® is your solution

Solarwave-Yachts has developed a system that reduces the operation-hours of diesel-engines and thus the consumption to close to zero. It is more simple, needs less maintenance and costs less than any conventional fuel-depending propulsion and energy-supply. It grants more luxury, comfort, independence reliability and safety.

At the roof of the Solarwave yachts high efficiency solar-panels of the latest generation are recharging the light weight lithium-batteries. The special configuration of the components provides an unique energy-balance: The solar-panels produce more power, than the household and the electric motors consume. So the batteries are being charged while driving the yacht!
Efficiency and Weight
The underwater-lines are optimized by CFD and towing-tank tests. The impressive weight-reduction is a result of the bionic design and the use of carbon fibres and epoxy resins. The whole interior furniture is made of stiff and ultra-light honeycomb composite plates with laminated real wood-veneer. Furniture and tanks are structurally integrated into the hull. This reduces the weight significantly.

Weight is nearly equivalent to consumption. Each kilogram less means less energy required to move the boat.

A Solarwave-Yacht has only half the weight compared to a conventionally constructed and powered yacht. Thus Solarwave-Yachts have less wave-drag and friction than other yachts. This unique efficiency makes them fast and enables self-sufficient propulsion.

They are true worldwide cruisers with a virtually unlimited range.

Autonomy and Luxury
A Solarwave-Yacht has virtually unlimited range – also when the sun is not shining. In case of longer periods of bad weather, the range-extender starts automatically when the batteries are low. The energy is stored in the batteries and can also be used in bad weather-conditions and during the night. The light-weight Lithium-Batteries provide ample energy for the propulsion as well as for all household appliances – 230 V (110 V) day and night (24/7!) for television, air-conditioning, ice-machine, watermaker, laptop and much more. No need to search for a marina to charge the batteries, to get ice, to refuel or to fill your waternets.

Reliability
The solarpanels are integrated in the roof, so there is no windload on them. The batteries and electric-motors are inside the boat in a dry and safe place. All wiring is tin-covered and all plugs are specially designed so water or humidity cannot enter. All parts exposed to the marine environment are made of corrosion-resistant materials. All components are virtually free of maintenance. So the running costs are much lower than on a comparable conventionally powered catamaran.

Redundancy and Safety
All vital components are redundant to ensure double safety. The Solarwave-System is by far safer and more reliable than any other propulsion like sails or diesel-engines.

Available Configurations
- Serial Hybrid - electric motors with shaft or turnable saildrives from 60 - 150 kW and a Generator as a redundancy to recharge the batteries, when necessary.
- Parallel Hybrid - diesel-electric propulsion from 75 - 230 HP Diesel + 20 kW E-Motor with shaft.

The only footprints you leave are those in the sand...
Solarwave 62 Cruiser

- Garage for a 6,3 m (21') Dinghy
- 4, 5 or 6 luxury cabins
- Available in 52’, 62’ and 72’
- Custom Versions on Request
- Solar-Hybrid Electric Propulsion
- Service Costs close to Zero
- Virtually no Running Costs
- Designed and built by Dr. Orhan Celikkol / ARC

Length: 18,86 m (61,9’)
Width: 9,5 m (31,2’)
Draft: 0,7 m (2,3’)
Light-Ship-Weight CE: 18 t
Cruising Speed: 6-8 kt
Top Speed: 12 kt
Certifikation: CE - A
Range: Trans-Ocean
History of the Solarwave®
Solarwave 46 - the Proof of Concept - launched in 2009

There are hundreds of solar boats and thousands of electric boats all over the world. But Solarwave 46 is the first oceangoing yacht which powers the propulsion as well as all household appliances exclusively by solar. This includes induction cooktops, stove, microwave, grill, freezers and fridges, air-conditioning, washing-machine, watermaker, even the dinghy-motor and the electric motorbike are solar-charged. No fuel and no gas on board. But a lot of luxury - noiseless and fumeless.

With this unique concept of an independent energy-supply the Solaryacht started a rigorous 5 years sea-trial in January 2010. They crossed the whole of Europe by river, sailed the dangerous Black-Sea, the stormy Aegean and the Med. This experience of more than 140 weeks was also enjoyed by hundreds of guests and visiting journalists. The functionality and sea-capability of this yacht were fully scrutinised and passed with flying colours. Solarwave accommodated 6 - 8 guests with electrically prepared full board, water-production, cooling and heating.

And on top of that Solarwave was able to power the engines - every day in any weather-conditions. In storms of force 9 as well as in calm, with sun, rain, cloudy sky, snowfall and ice. All exclusively with solar-power. During this period of 5 years there was no need for maintenance or repairworks, neither the solar-plant nor the batteries or the electric-motors.

The generator, which has to be on board for safety-reasons, was working for about 50 hours in five years - primarily to avoid becoming rusty .... during the same period of time the electric motors worked more than 2.500 hours ... without any maintenance.

Solarwave 46 is the proof for the feasibility and the suitability for everyday use of the "Solarwave-System".

The "Solarwave-System" has been awarded with the "Energy-Globe-Award".
THE TRUE HYBRID

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