



# Welcome aboard the first true hybrid yacht.

# Welcome aboard Greenline.

We created "The Hybrid" yacht that is all about You, Efficiency, and the Environment. When designing and building this yacht, maximizing your wellbeing on board and your enjoyment during a relaxing cruise were our main objectives. The concept was proven, and boat immediately became a crowd pleaser.

The concept was enthusiastically accepted, and Greenline 33 immediately became more popular than any boat of her size. Greenline started the production in 2010 and became the world's bestseller with over 300 boats delivered to 28 countries in the first three years.

With Greenline we start a new era of responsible boating. Join us on board. We are shaping the future - together.

Greenline. The Hybrid.



# Greenline is about the ENVIRONMENT.

We want to keep our most beautiful boating spots in the same pristine condition as when we first discovered them. We want to enjoy the untouched beauties of the boating world for years to come and pass them onto our children and grandchildren.

Greenline Hybrid is a powerful answer to this concern as it uses up to four times less fossil fuel than a planing powerboat in similar conditions, and it is completely emission-free in electric mode. The hybrid (diesel-electric) and solar powered drive systems have proven themselves both reliable and cost effective – enabling the birth of Greenline 33, the world's first production hybrid and solar powered boat.

# Greenline is about **EFFICIENCY.**

In the modern age, efficiency is all important. Efficiency in how we use energy (especially energy derived from fossil fuels), important natural resources and our financial assets. That is why we invented the protected Superdisplacement low-drag hull, which, although it is not designed for fast planing speeds, it uses much less energy to move through the water.

Not only does this innovation reduce fuel consumption, it also allows efficient electric propulsion using power supplied by the battery and solar power. Designed and built by people who know more about volume boat manufacture than anybody else in the world, Greenline Hybrid is more cost-effective to buy and use than any comparable boat, thereby offering incredible value for money.

Whether Hybrid-ready or Hybrid it's all about efficiency and fuel saving.

# Greenline is about **YOU**.

When designing and building this yacht, maximizing your well-being on board and your enjoyment during a relaxing cruise were our main objectives. We appreciate and share your passion for boating. Not only do all Greenline Hybrid yachts deliver more comfort, greater ease of handling and more fun than any other boat in its class, this outstanding design adds a new dimension: it allows you to savour the quietness of the water as you would on a sailing yacht without polluting your surroundings or the environment with smoke, noise or waves. Greenline Hybrid will take you to any of your favourite cruising spots - regardless of whether they are inland waterways, lakes, inshore waters or offshore islands - in complete comfort and safety.







# Greenline for you

Greenline Hybrid is the best choice for a couple with occasional friends or a small family of experienced yachtsmen, for hardened sailors or even for newcomers to boating.



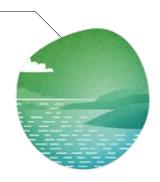
# For your continued wellbeing on board

With her great ease of handling, unmatched safety and seaworthiness this boat provides you with the comforts of your home for continued well-being on board.



# For the sea, lakes, rivers, ...

Greenline Hybrid will take you to the world's most attractive cruising areas – at sea, on lakes or inland waterways.



# Protecting the environment – and yourself

She sails without smoke, noise or waves in electric mode and drastically reduces the amount of fossil fuel used during a boating season.



## Diesel or Electric

Hybrid? All it takes is a flip of a switch to turn a diesel driven boat into full electric and back. Straightforward and simple.



# Supplying 230 (120) VAC at all times

230 (120) VAC power at all times enables extensive use of domestic appliances and recreates the comfort of your own home: use of a refrigerator (there's room for a 270 litre unit), a microwave oven, TVs and AC.



### Comfortable

With all the comforts of home and the spaciousness you would expect of a much bigger boat, you will never again have to look for excuses to return home earlier than planned.



# Seaworthy

With its hybrid propulsion system (protected), solar roof panels, seaworthy and low-drag Superdisplacement hull (protected) and unparalleled comfort, she is ready to meet any challenge.



# Respectful

Greenline Hybrid respects the sea, the boaters around you and our best boating traditions.







# **Greenline 33**Welcome home

The design of the Greenline 33 Hybrid completely redefines user-friendliness and is changing the way you will spend your leisure time at sea.

A flexibly arranged interior, excellent visibility, high levels of ambient light and room to move around in comfort – all features that have never been offered on a 10 metre boat before.



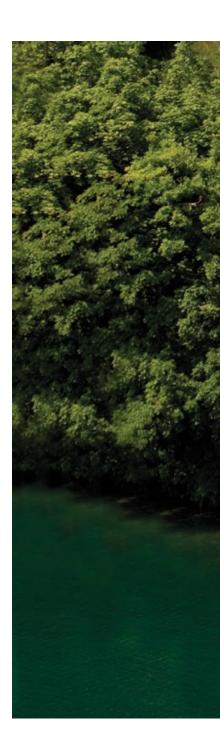
Standard Dimensions		
Length overall	9,99 m	32'4``
Beam overall	3,49 m	11'5``
Draft	0,70 m	2'4``
Displacement empty	4.800 kg appr.	10.580 lbs
Cabins	1 + salon	
Max. Berths	2 + 2 + 3	
Toilets/washrooms	1	
Diesel tank	500 l	132 gals
Water tank	300 l	80 gals
Black water tank	63 I	17 gals
Diesel engines max speed*		
75 hp	9 kts	
150 hp	14 kts	
220 hp	18 kts	
Diesel max range @ 7 kts	700 Nm	
Electric propulsion @ 48V	7 kW	
Generator	5 kW	
Electric max speed	5,5 kts	
Electric cruising speed	4 kts	
Electric sailing range	20 Nm	
Solar panels capacity @ 48V	1398 W	
Hybrid battery capacity (Li-Po) @ 48V	11,5 kWh	
CE cat.	В	
Design	J&J Design	
Engineering, tooling and development	Seaway	

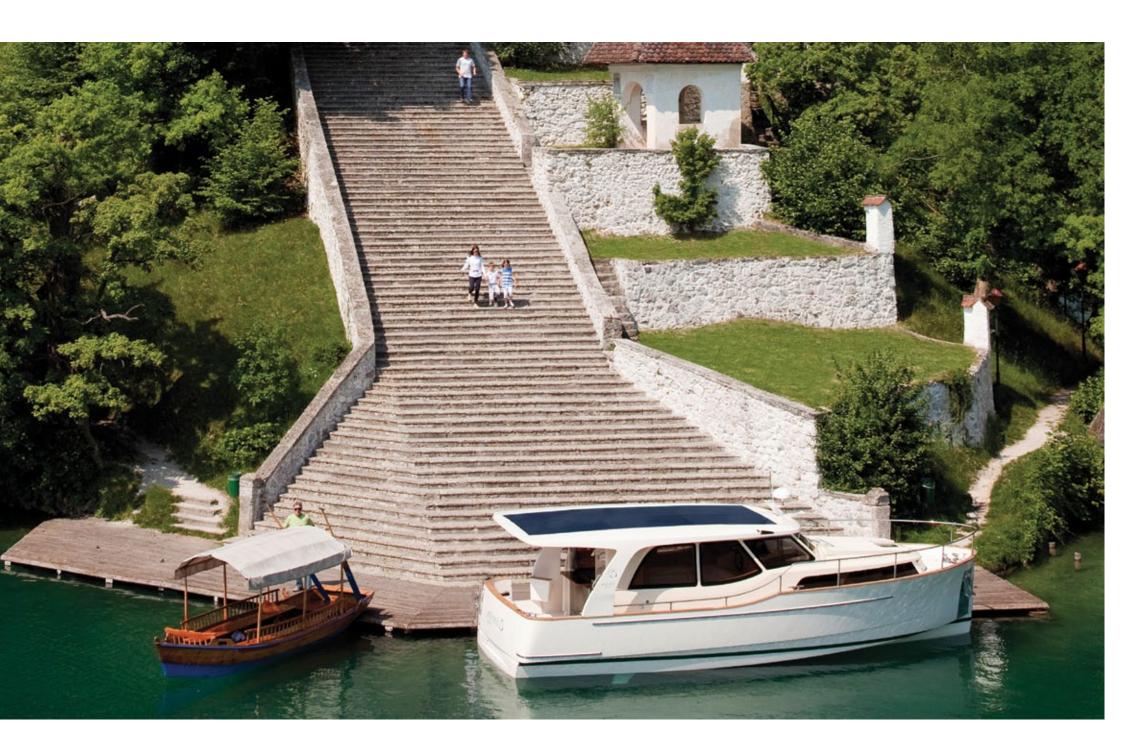
<sup>\*</sup> max speed with 1/5 load, clean hull, calm sea



<sup>•</sup> For more information and detailed standard specification please contact your local dealer.



















With her great ease of handling, unmatched safety and seaworthiness this boat provides you with the comforts of your home for continued well-being on board.







Greenline 33

# Features you will adore









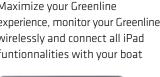






# GreenPad

Maximize your Greenline experience, monitor your Greenline wirelessly and connect all iPad funtionnalities with your boat







Silent eco-performance



Natural light and Panoramic view in the salon



City water connection



230 (120) VAC power at all times



Adaptive owner's cabin



















Twin-access, high-volume washroom



Open galley



Sheltered cockpit and sidewalks



Opening cockpit platform



Cockpit side exit



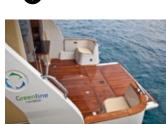
Cockpit storage

















# **Greenline 40**For your well-being

Greenline 40 Hybrid redefines boating. The level of well-being at anchor or at sea was brought to a new dimension. Comfort of moving around with ease, excellent visibility, ambient light and ample ventilation in all areas are well above expectations.

The Greenline 40 Hybrid will take care of you during the extended cruising trips you have always wanted to do.



Standard Dimensions		
Length overall	11,99 m	39'4''
Beam overall	4,25 m	13'11''
Draft	0,85 m	2'9''
Displacement empty	8.000 kg	17.640 lbs
Cabins	2 + salon	
Max. Berths	4 + 2	
Toilets/washrooms	1	
Diesel tank	700 l	185 gals
Water tank	400 l	106 gals
Black water tank	63 I	17 gals
Diesel engines max speed*		
2 x 75 hp	10 kts	
2 x 150 hp	18 kts	
2 x 220 hp	20 kts	
Diesel max range @ 7 kts	500 Nm	
Electric propulsion @ 48V	2 x 7 kW	
Generator	2 x 5 kW	
Electric max speed	6 kts	
Electric cruising speed	4 kts	
Electric sailing range	20 Nm	
Solar panels capacity @ 48V	1398 W	
Hybrid battery capacity (Li-Po) @ 48V	2 x 11,5 kWh	
CE cat.	В	
Design	J&J Design	
Engineering, tooling and development	Seaway	

<sup>\*</sup> max speed with 1/5 load, clean hull, calm sea

<sup>•</sup> For more information and detailed standard specification please contact your local dealer.









With her hybrid propulsion system (protected), solar roof panels, low drag Superdisplacement hull (protected) and unparalleled comfort, Greenline represents a new era in responsible boating.





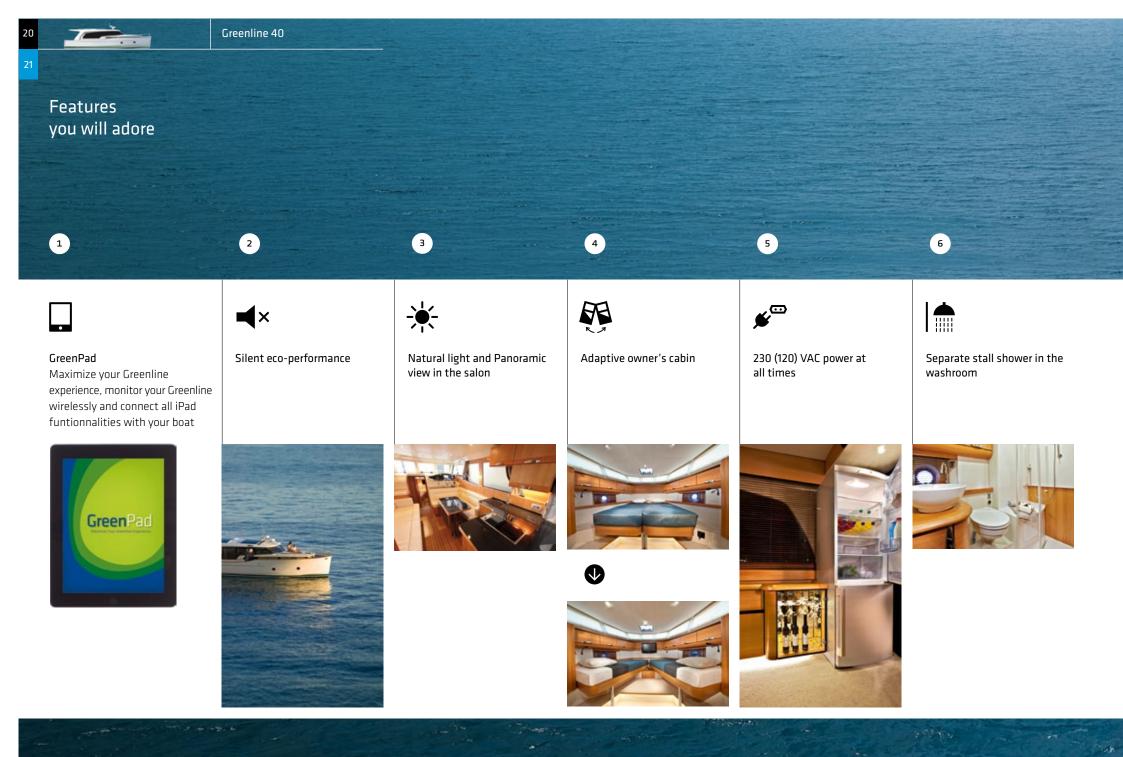


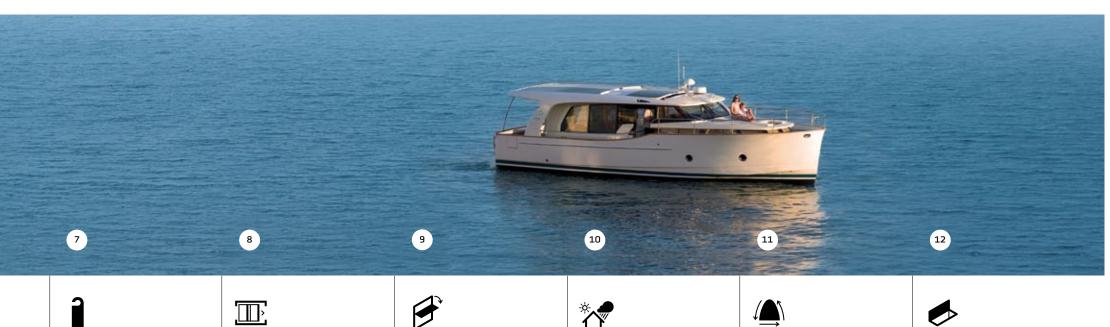














Superb guest cabin



Sliding roof and side door



Open galley



Vast cockpit opening platform & extended cabin roof



Sheltered sidedecks



Cockpit storage

















# **Technology** New, but simple and proven



Through the immesurable effort in engineering expertise, time and money invested during the development phase of the Greenline Hybrid, this state-of-theart product offers great performance, reliability and user friendliness at incredible value for money. A lighter and stronger yacht further increases energy efficiency and performance.





Protected Superdisplacement Hull Design

- Exceptional low-drag hull shape derived from sailboat hull lines



Protected Hybrid (diesel/electric) **Propulsion System** 

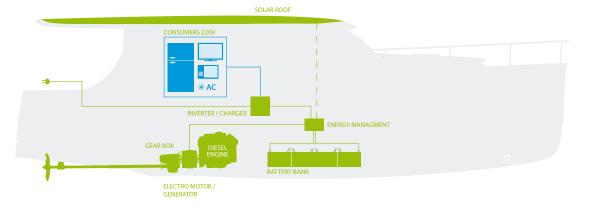
- Hybrid drive
- Solar roof
- Lithium batteries





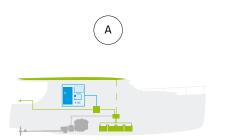
- Advanced infusion technology
- Environmentally friendly
- Significant weight saving

# **Hybrid system**How does it work?



The protected hybrid system connects the 4 modes of operation with full integration and simplicity.

A control system simplifies the interface to the user via a (Diesel/Electric) switch.



В



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A. At the dock (shore power mode), the boat is plugged into the 230 V (120 V) AC shore power supply.

The battery pack is under charge and the inverter provides AC power to run home appliances like the fridge, TVs, etc.

B. In electric drive mode, the boat is powered by the electric motor/generator eM/G, which produces electric power. This mode is used to sail in and out of a marina or anchorage with no noise, no smoke and an insignificant wake. At 4 knots a fully charged battery pack provides a range of up to 20 miles.

**C.** In diesel drive mode, the diesel engine propels the boat and drives the generator, which recharges the battery pack.

D. At anchor (at anchor charge) the solar roof array charges the batteries, which provide a 230 V AC power supply to the appliances via an inverter. If the level of battery charge drops below a set value, the diesel engine is switched on in order to drive the generator and charge the battery pack via generator(s). The propeller is disengaged (the gearbox is in neutral). This is the anchor charge mode.

charging

consuming

passive state

# **Protected Superdisplacement Hull Design**

# Protected Hybrid (diesel/electric) Propulsion System

A fully electronically managed and maintenance-free system

# Benefits:

- comfortable, safe ride
- easy maneuvering
- seaworthiness
- low running costs

Greenline's protected Superdisplacement hull shape generates less drag, less wake, creates the ability to use less fuel, generates lower CO2 emissions, and enables the use of electric power. It offers better seaworthiness and easier handling than any comparable hull.

The reduced energy requirement means less running cost, less refueling stops and more time in your favorite anchorage or cruising grounds.

Besides being efficient, the Superdisplacement hull shows optimum performance in all sea conditions - an important factor in comfort and safety when underway. The Greenline manages even challenging sea conditions with ease, needing only minute corrections at the wheel. The twin sacrificial stabilizer fins are a further advantage of this hull, and have three functions: they deliver roll stability, tracking stability, and protect the drive and rudder. If the stabilizers get damaged, the structure of the boat will not be affected. These fins can be quickly and inexpensively replaced.

# Benefits:

- simple maintenance
- ease of use
- use of electric energy for propulsion: the running cost of electric boating is 10 times less than burning diesel fuel, even disregarding solar energy
- eliminating smoke and noise
- 230 (120) VAC power system at any time, either at the dock or at sea

Greenline Hybrid can collect, store and use electrical energy from the sun, from the shore pick-up or from the main engine driven generator. With a solar array and a Hybrid drive electric unit this boat is a mobile power station providing a constant supply of AC power (230 or 120 VAC) on board.

The user-friendly and reliable hybrid drive system (protected) consists of the following elements:

- a single switch that lets you choose between two drive modes: diesel or electric.
- a modern diesel engine mutually developed with our partners.
- a fully electronically managed and maintenance-free electric motor/generator, when driven by the diesel engine it is charging the batteries and supplying power to on-board consumers. The two components are integrated into one unit, thereby saving space and weight. The eM/G is coupled to a specifically developed gearbox with our well chosen partners.
- a hydraulic clutch between the diesel engine and the electric motor/generator.
- an inverter/charger that charges the battery in the shore power mode and delivers a 230 V AC power supply throughout the boat at all times.
- a solar array delivering green electric power to the batteries during daytime. No cost and emission-free sailing is possible at low speed.
- a Lithium battery pack (same as the one driving your mobile phone or laptop computer). Lightweight and compact (seven times lighter and one third of lead battery size) these batteries are rated at thousands of cycles. With a life expectancy of 10 years they represent the best choice for a hybrid boat.

# 

Comparison of fuel consumption in litres and CO2 emission in kg per boating season (35 boating days simulation):

a 33-feet sailboat with a diesel engine versus Greenline 33 Hybrid versus a 33 feet twin diesel engine powerboat.

# Solar roof



The solar roof array keeps the batteries fully charged and provides additional energy for the boat's electric drive system. No-cost and emission-free sailing is possible at low speed where the amount of energy harvested from the sun and the system's energy consumption are equal, making the Greenline Hybrid a solar sailboat.

# Lithium battery



Just like your mobile phone or laptop computer, the Greenline Hybrid uses the best lithium battery technology available: a 11,5 kWh on Greenline 33 and 23 kWh on Greenline 40 battery pack with a permissible discharge of 100%.

# Benefits:

- green energy production
- cost and emission-free sailing
- no maintenance

6 photovoltaic solar panels with forced air cooling deliver up to 1.4 kW of electric power in daylight conditions. As the solar cells are protected against hail by a 3.2 mm glass shield and are easy to access for cleaning, your solar power station requires only a minimum of maintenance. It is capable of supplying constant power to on-board consumers like the refrigerator and TVs and can recharge the batteries up to 100% when exposed to a full day of sunlight.

# Benefits:

- low maintenance
- ease of use
- more time spent out on the water, whether cruising or at anchor
- estimated 10 years life expectancy
- lightweight and compact

Rated at thousands of charge cycles, these batteries outperform lead battery types by a factor of five to six. Very powerful, light-weight (7 times lighter, 1/3 of normal battery size) and maintenance-free, these batteries are the best choice for your hybrid boat.

# Greenline **SeaClass**

Greenline
The Hybrid.

< 50 feet

Greenline 33

Greenline 40

Greenline 48









Solar panels capacity @ 48V	1398 W	
Electric propulsion @ 48V	7 kW	
Generator	5 kW	
Hybrid battery capacity (Li-Po) @ 48V	11,5 kWh	
12 V charger	30 A	
48 V charger / inverter	35 A / 3 kW	
Electric max speed	5,5 kts	
Electric cruising speed	4 kts	
Electric sailing range	20 Nm	
Diesel max speed	18 kts	
Diesel max range @ 7kts	700 Nm	

Solar panels capacity @ 48V	1398 W	
Electric propulsion @ 48V	2 x 7 kW	
Generator	2 x 5 kW	
Hybrid battery capacity (Li-Po) @ 48V	2 x 11,5 kWh	
12 V charger	60 A	
48 V charger / inverter	70 A / 5 kW	
Electric max speed	6 kts	
Electric cruising speed	4 kts	
Electric sailing range	20 Nm	
Diesel max speed	20 kts	
Diesel max range @ 7kts	500 Nm	

500 W	
2 x 14 kW	
2 x 10 kW	
46 kWh	
60 A	
110 A / 8 kW	
6 kts	
4 kts	
20 Nm	
23 kts	
900 Nm	

# Greenline OceanClass

> 50 feet

OceanClass 57





OceanClass - Marking a new era in extended world cruising







OceanClass 70



OceanClass 88





Greenline OceanClass continues with the philosophy of her smaller sisters, 33, 40 and 48 feet Greenline SeaClass, but takes comfort and range to a new level. With her seaworthy Superdisplacement hull (protected) allowing for a transoceanic range, coupled to solar and hybrid technology,

this particular vessel is about to have a huge impact on the boating community in the years to come, increasing the comfort and decreasing the cost of boating in a significant way – while drastically reducing the carbon emission footprint of a boating family.

Seaway is the world's leading boat development company based on the J&J Design studio created in 1983 by Jernej and Japec Jakopin.

Since then, over 250 designs gave birth to over 60.000 boats and yachts manufactured by 48 boat-builders from 19 countries. Over 50 of these designs gained Boat of the Year, Design and Environmental awards. Seaway also builds own branded yachts: Greenline, OceanClass, Shipman Carbon Yachts and Skagen Motoryachts.

# Shaping the Future.

Builder:

# SEAWAY YACHTS,

Puconci 80, 9201 Puconci, Slovenia, Ph: + 386 4 57 27 700, F: + 386 4 57 27 720

Description and photos may contain and/or show optional equipment.

Photo: Jurij Korenc (exteriors); Jože Maček (interiors); Bertel Kolthof, Waterkampioen, ANWB; Marnix Hameeteman, NovaYachting

Design: IlovarStritar

### Disclaimer

This document has no contractual value. Seaway reserves the right to change specifications, dimensions, data and design features.

The data presented in this document are based on field testing, tank testing and computer simulations and are preliminary and for information only.





**Contact your local dealer:** www.greenlinehybrid.com





