

PRELIMINARY EFFICIENCY SURVEY

The new IMO regulation which requires a Ship Energy Efficiency Management Plan (SEEMP) faces the yacht industry with the challenge to make a diagnosis of the actual situation and establish achievable objectives towards a more efficient operation.

In this case, Astilleros de Mallorca suggest using the crews' knowledge regarding the behavior of their yacht, guided by Atlante, a Marine Consultancy specialized in the implementation of energy efficiency and the issuing of a PRELIMINARY EFFICIENCY SURVEY.

The purpose of this survey is to make a REAL diagnosis of the situation of a yacht.

- **Identify the efficiency parameters of the vessel.** No two yachts are alike and consequently the list of parameters to be measured is not fixed. We divide them into four main groups of study, shown in the table below.
- **Determine the level of efficiency of the vessel.** Applicable parameters will be rated from A to F and presented in a report that will highlight the margin to improve each aspect.
- **Identify potential efficiency improvements.** Possible actions to improve a specific parameter and thus reducing operational and maintenance costs and discomfort level will be identified and presented including an investment/improvement ratio.

<i>Groups of action</i>	<i>Examples of parameters</i>	<i>Examples of actions</i>
Ship Design Structural, Hydro and aerodynamic aspects	Trim, rudder aspect ratio, rolling period, wave resistance or heat losses.	Modification of propellers pitch, design of a bulb, extension of bilge keels, change of antifouling type.
Machinery Technology Includes main propulsion and other equipments	Fuel consumption per nautical mile, emission of gases, soot contamination index or vibration levels.	Installation of fuel meters, installation of elastic mounts for fans or exhaust systems, redesign of AC compressors, efficiency monitoring systems
Electrical system: Power generation and use of it on board	Generators running time, Fuel consumption per Kw, or Lux level per watt.	Installation of variable speed controllers, paralleling systems, batteries management modules.
Operational issues: Methods and procedures applied on board	Lighting modes protocol or navigation protocol	Energy awareness, weather routing, autopilot adjustment.

Improvements identified as feasible, will require further surveys, specific calculations and trials, and therefore are part of a second stage not included in the preliminary survey, that we call ADVANCED EFFICIENCY SURVEY

PRELIMINARY SURVEY PROCEDURE

A naval architect expert from Atlante Marine Consultancy, will visit the yacht for approximately two days. Full cooperation of the crew will be needed during their presence on board. There will be requests to examine information such as drawings and manuals of existing systems and to run some of them. After the on-board survey, all the information will be studied and processed in Atlante's offices. Soon after, you will receive a efficiency analysis certificate, a complete report and a very comprehensive colour coded summary spread-sheet.f

Please ask us for more information or a quotation

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EFFICIENCY SELF QUESTIONNAIRE

The purpose of this questionnaire is to give a preliminary idea of efficiency and potential improvements, based on the expertise of a yacht crew.

	Yes	No
Do you avoid certain ranges of speed due to vibrations?	<input type="checkbox"/>	<input type="checkbox"/>
Do you experience problems related to excessive heat radiation from illumination?	<input type="checkbox"/>	<input type="checkbox"/>
Do you suffer discomfort due to noise?	<input type="checkbox"/>	<input type="checkbox"/>
Would it be useful to know the correlation between rpm of your engine and consequent fuel consumption?	<input type="checkbox"/>	<input type="checkbox"/>
Do you frequently clean soot on sides and decks?	<input type="checkbox"/>	<input type="checkbox"/>
Do you use your stabilizers even when sailing in calm waters?	<input type="checkbox"/>	<input type="checkbox"/>
Do your generators frequently run below 80% of their nominal rated power?	<input type="checkbox"/>	<input type="checkbox"/>
Are your AC compressors always running?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have complaints from guests about exhaust smells?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is YES to some of these questions, you would benefit from a preliminary efficiency survey done by an expert.

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