



Harbour Electronical Marine Innovations System

The reasons to select The Marine Innovations System, save money on fuel consumption, and reduce CO2 output.

1. Savings on fuel

2. Savings on maintenance

- ✓ Less running hours of auxiliary engines (maintenance costs reduction)
- ✓ Having a tool to help your self-evaluation and improve your ship energy efficiency management One of the ***“Best performing Ship Management Companies”***

3. Better environmental performance

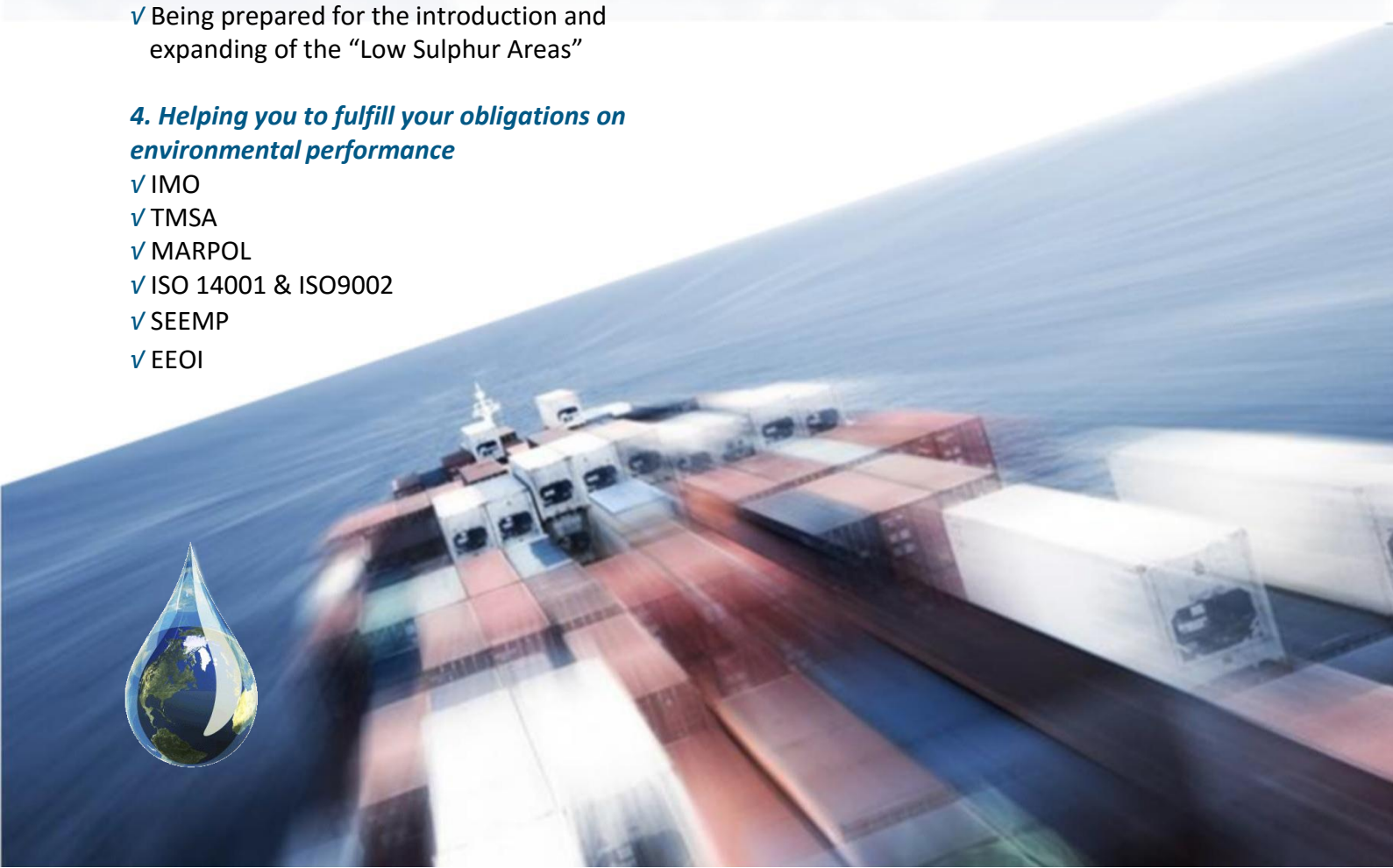
- ✓ SEEMP and “Ship Energy Efficiency Index”
- ✓ To get the credits from Governments and Port Authorities as a “Green Shipping Company”
- ✓ Being prepared for the introduction and expanding of the “Low Sulphur Areas”

4. Helping you to fulfill your obligations on environmental performance

- ✓ IMO
- ✓ TMSA
- ✓ MARPOL
- ✓ ISO 14001 & ISO9002
- ✓ SEEMP
- ✓ EEOI

The Marine Innovations system of Harbour Electronical Services B.V. are applicable to:

- ✓ Sea water cooling pumps
- ✓ Engine room ventilation
- ✓ Public room ventilation
- ✓ Cargo hold ventilation for general cargo and container vessels
- ✓ Chilled water pumps container vessels.
- ✓ Thermal oil systems
- ✓ Tank cleaning pumps on chemical tankers and tankers
- ✓ Car deck ventilation on air quality “Ro-Ro” and “Ro-Pax” (*Amendments of IMO regulations were drafted by SOLAS in 2011 and were finalized in 2014*)
- ✓ Future: Aux. blowers and slow steaming
- ✓ Etc.



The Marine Innovations System and the unique approach of Harbour Electrical Services B.V.

As a start, our specialists survey the existing situation on board of your ship and compile a report. The report contains checklists of all objectives of future savings.

An appointment is made, for instance with the vessel alongside, so that to install the unique system on board without an operational delay. Dedicated sensors are placed on board according to strict international regulations.

After the installation and comprehensive implementation testing, a period of measurement follows and the results will be used for fine adjustments.

Consequently you experience the benefits of our unique Marine Innovation system. The savings are not only on fuel, but also result in the reduction of CO2 emissions. This will bring the benefits in terms of discounts on seaport dues.

Some of the benefits guaranteed by the Marine Innovation System supplied by Harbour Electrical Services B.V.

Air Quality Monitoring system

- ✓ Total electrical savings equal **176 kW**.
- ✓ The annual savings on fuel are 385 tons which amounts to **\$ 269.500**.
- ✓ Total reduced CO2 output is **1.002 tons**.

Sea water cooling pump

- ✓ Savings for the sea water cooling pump are **51 kW**.
- ✓ Reduced annual fuel consumption is 112 tons worth **\$ 78.200**.
- ✓ CO2 reduction is **290 tons**.

Engine room ventilation

- ✓ Savings for engine room ventilation are **75 kW**.
- ✓ Reduced annual fuel consumption is 164 tons which amount to **\$ 115.000**.
- ✓ CO2 reduction is **427 tons**.

