Our environmental commitment

For the Wilh. Wilhelmsen group, economic, environmental and social responsibilities go hand in hand. Sustainability is therefore the basic principle governing our business operations. We are committed to deliver both environmentally sustainable solutions to world shipping and reducing the environmental impact of our operations.

Our vision is “Shaping the maritime industry”. In order to be that shaper we take into account customer demands, international regulations and future technology. Through profitability and innovation we are committed to address the environmental challenges of the maritime industry. We have a clear ambition to develop, produce and market environmental products and services to the global merchant fleet. In addition, we can contribute to making the industry greener by operating our vessels in an energy efficient and environmentally sound way. Our vessels also function as test bed for our environmental products and solutions.

We believe accidents and environmental harm can be prevented through focus on quality and safety standards. All companies within the group comply with and aspire to stay ahead of international laws and regulations and have established procedures for monitoring environmental performance.

The group works proactively with regulatory bodies developing and implementing international regulations covering the maritime industry. We promote a practical and effective international statutory regime which provides a level commercial playing field for the group’s business activities.

Developing solutions to address the environmental challenges of the maritime industry are to a high extent driven by regulations and, ultimately, convenient and effective compliance with them. As others we have experienced setbacks in our innovative efforts, but we learn and will continue to develop new environmental products and services. Our environmental commitment was broad in 2011 and will continue with undiminished vigour in 2012. Change will not happen overnight – but we will be part of making it happen.

Thomas Wilhelmsen
Group CEO
Wilh. Wilhelmsen Holding ASA
Reducing our environmental footprint

We work continuously to reduce our environmental footprint. On these pages we have listed several of our environmental initiatives.

WILHELMSEN SHIPPING MANAGEMENT (WSM) REACHED ANOTHER GREEN MILESTONE

WSM’s Green Ship Recycling (GSR) reached an important milestone on 21 September 2011 when the company was attested by Det Norske Veritas (DNV). GSR was evaluated according to DNV’s standards for sustainable business with the objective that the content, suitability and efficiency of WSM’s GSR procedures and processes are complete and feasible ensuring that a recycling yard meets their standards and international requirements for the safe and environmentally sound recycling of ships.

NOx CARE BREAKS ANOTHER RECORD

Yarwil, the joint venture between Wilhelmsen Maritime Services and Yara, passed another milestone by delivering enough urea to reduce NOx emissions by more than 50% by WWASA, has been fitted with a fuel performance and guide crew with accurate information, contributing optimal sailing conditions.

MAIN ENGINE LUBRICATION OIL CONSUMPTION

Our newest vessels fitted with electronically controlled engines require less lubrication oil than older engines. In addition, several of the older main engines have been retrofitted with technology which reduces the need for lubrication oil by more than half. This year, we coated two of our vessels, M/V Tortugas and M/V Tombarra, with high performance antifouling system which had to be done more than an average of 15% over a five-year period. Hull cleaning will not be necessary for this system applied.

OPTIMISING ENGINE FUEL PERFORMANCE BY FUEL EMULSION

In 2011, two of our vessels, M/V Tortugas and M/V Tombarra, were fitted with a fuel emulsion system. The system mixes 20% fresh water into the fuel, producing an on-the-spot, water-in-oil emulsion. The system aims at improving fuel oil combustion and reducing NOx emissions, black carbon/soot emissions and CO2 emissions.

HULL AND PROPELLER MODIFICATIONS LOWER FUEL CONSUMPTION

Several of our vessels have been fitted with new technology for improving hull resistance and propeller efficiency. New energy efficient design lower fuel consumption compared with older vessels. Three of our older vessels have been fitted with a propeller boss cap which had led to reduction of vibrations on board which also improves fuel efficiency.

MONITOR VESSEL FUEL PERFORMANCE

During 2011 and 2012, all our vessels will be fitted with performance monitoring systems from Manoraka and accurate mass fuel flow meters. These systems will continuously monitor vessel fuel performance and guide our crew with accurate information, contributing optimal sailing conditions.

MINIMAL HULL FOULING GUARANTEED

Our vessels are coated with advanced antifouling systems to ensure minimal water resistance. In addition, we support two of our vessels with TI Contracting, with high performance antifouling system from Jotun, guaranteeing that speed on these vessels will not drop more than an average of 1% over a five-year period. Hull cleanings will not be necessary for this system applied.

SAVING POWER CONSUMPTION

During 2011, Wilhelmsen Technical Solutions commissioned Energy Management Technology (EMT) systems that will save a total of 30 million kWh annually. The Callenberg-EMT system controls the engine room ventilation system according to the true demand in every served area which results in an optimum operation. The system has been installed on more than 40 cruise and passenger ships with proven results since 1999.

FUTURE DESIGN

The future will require even more efficient vessels and new energy carriers. The coming expansion of the Panama Canal will generate possibilities for new vessel designs. In order to welcome the study from 2016 of post-panamax designs to further explore possibilities this expansion could have for future vessels.

LNG AS FUEL

Future vessels will be dependent on cleaner energy carriers. Liquefied Natural Gas (LNG) is now emerging as a promising new energy carrier for our vessels. A study was carried out during 2011 together with TI Contracting, aiming at reducing storage space needed to be able to operate on LNG fuel. The study was partly funded by the Norwegian Research Council.

PARTNERSHIPS

We work closely with our partners, stakeholders, external companies and R&D institutions to reduce fuel consumption even further. The outcome in 2011 has been environmental cooperation for our crew, crew environmental training and conclusion of the Energy Management in Practice (EMT) project, which was supported by the Norwegian Research Council.

REGULAR VESSEL HULL CLEANING

To ensure smooth and efficient operations, all our hulls are cleaned every 12 months and their propellers are polished every six months. In addition, we support a new promising technology from the Norwegian company Ecotubes which will ensure efficient and gentle hull cleaning. All discharges from the hullcleaning process are collected and safely treated on shore.
The operating companies in the WW group controlled a total of 133 vessels at the end of December 2011. The fleet, purposely built to transport cars and high and heavy cargo, represented a 22% global market share measured in car equivalent units (CEU’s). During 2011, the group took delivery of ten new vessels, four on WWASA’s account (MV Tønsberg, MV Tiger, MV Tugela, and MV Titania). No vessels were recycled in 2011.

Our account for 2011 incorporates 32 vessels owned and controlled by WWASA and operated by Wallenius Wilhelmsen Logistics and EUKOR Car Carriers. Despite a solid improvement in cargo volumes transported in 2011 compared with 2010, and more sailings than the previous year, the fuel consumed per cargo transported (g/tonne nm) decreased by 1.6%, showing that our vessels operate more efficiently than ever before. CO2 emissions increased by 1.4%. The SOx emissions were in line to 2010, with an average sulphur content in fuel consumed on board our vessels of 1.78%. NOx emissions increased slightly from 2010 to 2011 due to more sailings with older vessels emitting more NOx emissions than newer vessels.

### Fleet List

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<th>Name</th>
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<th>Type</th>
<th>Flag</th>
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* Not incorporated in this environmental accounting due to external management.
Continues productive collaboration

In 2011, Wilhelmsen Maritime Services (WMS) renewed the agreement with Norway’s Bellona environmental foundation.

“The purpose of this collaboration is to work together for tomorrow’s shipping industry to achieve genuine improvement of the environment,” says Tor Øiseth, vice president, Business development and regulatory affairs at Wilhelmsen Maritime Services.

The three-year agreement between WMS and Bellona commits the two sides to discuss environmental challenges and areas for improvement, and to develop joint proposals for innovative solutions. The parties have already identified a number of specific projects, including reduction in the sulphur content of bunkers, a ballast water treatment system and reduction of emissions to air through scrubber technology.

Bellona states that business collaboration is key to realising its vision for the shipping industry.

“Our vision is that Norwegian and international shipping should be CO₂ neutral or carbon negative by 2050. Furthermore, other emissions to air and discharges to sea must be eliminated or within what the natural environment can handle. Through its proactive approach, WMS contributes to realising our vision and setting realistic requirements for the industry,” says Henrik A. Lund, head of business cooperation at Bellona.

WMS’ vision is to shape the maritime industry. Offering sustainable and efficient solutions to the maritime sector is one way of achieving this. Bellona’s environmental expertise, combined with our maritime experience enables us to develop products and services that help our customers stay compliant with or even ahead of stricter environmental regulations. Through a mutually beneficial cooperation we will contribute to making the shipping industry greener,” concludes Tor Øiseth in Wilhelmsen Maritime Services.

In 2011, Wilhelmsen Maritime Services (WMS) renewed the agreement with Norway’s Bellona environmental foundation.
Wilhelmsen Ships Service –
First choice in chemicals

With the acquisition of Nalfleet in 2011, Wilhelmsen Ships Service (WSS) is by far the world's market leader in environmentally acceptable marine chemicals.

All the chemicals are produced at the same location, the Wilhelmsen Chemicals factory just outside Tønsberg in Norway. The factory has a highly automated production system, capable of producing more than 100 million litres of chemicals per year. The manufacturing is regulated by ISO 9001 and ISO 14001, two of the strictest safety and environmental legislations in the world.

All of the water treatment chemicals will now be branded under the Nalfleet name, and the rest of the product line will be branded under the Unitor name – two well-known and trusted names in the market. Sustainability is not limited to the chemicals themselves, but incorporates the whole product lifecycle including the application equipment. Unitor and Nalfleet chemicals do not pose a threat to personal health or the environment when used correctly.

“It is about the way we work within our business and in our interactions with others. This means that we must monitor everything from the production and distribution to the on-board use. This ensures that we have sustainable solutions for the benefit of both our customer and the environment”, says Business Stream Marine Chemicals Director Graham Hunter.

Production and quality control is standardised for both product lines.

Wilhelmsen Chemical AS meets all the European REACH regulations. Throughout the production process WSS is committed to reducing waste, transport volumes, hazardous substances and recycling materials. The company's aim is to keep increasing the effectiveness of its chemicals and, at the same time, to improve safety and reduce environmental impact.

Although WSS is the largest producer of marine chemicals in the world, innovation is still the prime goal.

“It's not only about size,” says Business Director Marine Chemicals Graham Hunter about the integration of the revised chemical offer.

“We realise that customers have a choice. We need to keep innovating to lead the market.”

WSS focuses on actively involving customers in a dialogue to find new solutions to their chemical needs, something that is especially important when they see new legislation coming their way. Waste water, tank and cargo hold cleaning and fuel additives are some areas where WSS sees a potential for growth in the marine chemical segment in the years to come.
Helping owners save fuel and reduce emissions to air

Wilhelmsen Technical Solutions (WTS) continued its environmental focus in 2011. One of the areas that have great potential for growth is the proprietary energy management technology solution, Callenberg-EMT, which was recently installed on Cunard’s Queen Mary II.

To date, the fuel-saving system has been installed on more than 40 cruise and passenger ships since 1999, with proven results. Starting in 2012, WTS will expand the customer base for Callenberg-EMT with a targeted approach, marketing the system to merchant vessels.

“The Callenberg-EMT system has great potential,” says Magnus Hansson, WTS director engineered solution. “We will use our experience together with our global network of knowledge engineers, sales and customer service to help ship owners save energy.”

“In an uneasy global market where energy prices are high, a system that saves fuel and has a full payback time ranging from six months to a maximum of two years, should generate interest from customers looking to improve their operational efficiency and increase their profitability. Installation can be done seamlessly during regular operations.”

The Callenberg-EMT system for engine rooms controls the engine room ventilation system according to the true demand in every served area which results in optimum operation. The system gives most savings during slow steaming, as the capacity of engine room ventilation and combustion air is made to match the much lower ventilation demand. This can translate to annual savings of more than 30%.

“If you don’t have smart control systems, you will not gain the full profit of fuel savings,” says Hansson, noting that the system also reduces both noise and emissions to air.

Reducing shipboard emissions

Another environmental offering from WTS is NOxCare, a solution for reducing shipboard emissions to air. Since its introduction in 2009, around 120 systems have been ordered. NOxCare is offered to ship owners and operators as an efficient solution for reducing shipboard emissions of Nitrogen Oxides up to 95%. The system has three elements: NOxCare SCR, NOxCare 40 and NOxCare Service.

NOxCare SCR is a reactor based on Selective Catalytic Reduction technology, which is the only proven technology today that produces the needed results. NOxCare 40 is a high purity urea reagent that combines with NOx gas in the funnel, producing harmless Nitrogen gas and water. NOxCare Service ensures smooth system operation throughout the system’s lifetime. This advantage will become even more important as 2016 nears, when new vessels operating in Emission Control Areas (ECAs) will be required to have such a system.
Environmental vessel operation

Efficient and environmental vessel operation combined with training of officers and crew were key issues for Wilhelmsen Ship Management (WSM) in 2011.

WSM was at the end of 2011 operating more than 150 vessels on behalf of owners. In addition, WSM provided crew to an additional 300 vessels in the global merchant fleet. In order to be a premium ship manager, continuous focus is demanded on training, transparency and environmental management.

By the end of 2011, all WSM management offices were compliant with the ISO14001 certifications. These certifications prove that WSM’s Environmental Management System has been measured against a best practice standard and found compliant. This is indeed an important milestone for WSM in the company’s quest to maintain its position as a social and environmentally responsible manager.

Green recycling

Green ship recycling was the new and additional green product in the portfolio of WSM in 2010. Green ship recycling services are specially designed for ship owners who demand a demolition process based on a safe working environment at the yard and identification and safe disposal of all hazardous materials on board. In 2011, WSM has completed the Inventory of Hazardous Materials (also known as Green Passport), a key requirement of the Ship Recycling Convention and forms the basis of the Ship Recycling Plan. This plan is prepared before a vessel is recycled and is central to a safe and environmentally sound recycling of ships. WSM has selected Chinese yards, which dismantle at the quayside in full compliance with the International Maritime Organisation’s new Hong Kong Convention (May 2009) on ship recycling.

Since February 2009, the U.S. Environmental Protection Agency has issued a compliance document to identify 26 possible discharges into the sea from vessels that are covered by the Vessel General Permit. WSM response is a compliance programme in place for all vessels that operate in US waters. Each vessel, owner/operators are required to submit a one-time report between 30 months and 36 months after obtaining permit coverage. In 2011, the report was completed for all WSM managed vessel allowing the vessels continued coverage under the Vessel General Permit.

Wilhelmsen Ship Management

■ WSM is one of the world’s largest providers of third-party ship management services and has an extensive range of solutions to all vessel segments on a global level.

■ Ship management services include: technical management, crew management, green ship recycling, green passport (IHM), newbuilding/conversion consultancy, marine insurance, commercial management, maritime training and IT solutions.

■ WSM has its head office in Kuala Lumpur, with management offices in Oslo, Southampton, Houston, Singapore and Busan. Total number of employees in WSM is approximately 400.

■ WSM provides crew or/and technical management to more than 400 vessels, including ro-ro vessels, container ships, bulk carriers, car carriers, seismic ships, LNG and LPG vessels, product tankers, offshore supply ships, passenger vessels and specialised vessels.

■ More than 9 000 seafarers are working for WSM in their global crewing network.

«In order to be a premium ship manager, continuous focus is demanded on training, transparency and environmental management.»
USEFUL LINKS:

WILH. WILHELMSEN HOLDING ENVIRONMENTAL PAGES
WILH. WILHELMSEN ASA ENVIRONMENTAL PAGES
WILHELMSEN MARITIME SERVICES ENVIRONMENTAL PAGES

MORE INFORMATION

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