



# Empowering Sustainable Winners

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Anthropogenic emissions of greenhouse gases (GHG) are contributing to global warming, and global temperature increases exceeding 2°C above pre-industrial levels will likely lead to catastrophic global consequences. Reflecting the ambitions to avoid such a development, the target of 2 °C was included in the Copenhagen Accord emerging from the COP15 meeting in December 2009 organised by the United Nations Framework Convention on Climate Change (UNFCCC). It is estimated that in order to achieve stabilisation at 2°C above pre-industrial levels, GHG emissions need be reduced in the order of 50% - 85%, in 2050 compared to today's level. The new White Paper for transport forthcoming from the EU Commission has environmental issues in the forefront. These ambitions will also affect maritime transportation. International shipping is a significant contributor to global GHG emissions, responsible for approximately 3% of global CO<sub>2</sub> emissions. Published scenarios for future shipping activities indicate a significant increase in emissions, unless regulations are imposed.

Ship energy efficiency and environmental footprint is largely determined by the ship design on one hand and its operation on the other and there is a significant potential for improving both of these aspects, not least by interlacing them from the start of the ship retrofiting-design phase. Marorka has a holistic energy management methodology, systems and tools to improve energy efficiency of commercial ships by focusing on both the optimization of the retrofit design and optimizing the day to day operation.

By linking using the sustainability model as overall philosophy for goal setting as shown in the figure it ensure successful implementation. The model shows the Innovation Pathway/value creation (Y-axis) and Execution Pathway (X-axis) and the path necessary to create a sustainable winner. Here a sustainable winner means that companies are continuously improving their environmental- and energy efficiency.



**Figure 1.** Sustainability winners and the execution pathway (Figure adapted from D.A. Lublin & D.C. Esty, Harvard Business Review, May 2010)

Using the graph, the shipping industry today is located in different places on the graph where many are located in the “Defender Position” (do old things in new way) while others are located in “Dreamer Position” with clear vision but has not started the execution. Few companies are combining the value creation and execution in that way they move towards sustainability.

Efficient green ship design and operations, can contribute substantially towards lower ship energy consumption. Energy efficient improvements of ship in operation (implement green technology) can reduce energy consumption by 15%-25% compared to a standard ship built today and energy efficient operations can reduce energy consumption by a further 10%-15

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