

Abstract

With IMO's first greenhouse strategy, the maritime industry aims to reduce its greenhouse gas emissions by at least 50% by 2050 compared to the levels of 2008. Whereafter, the aim is to get these emissions to zero as quickly as possible. To achieve this goal, alternative fuels and new techniques are in dire need. The Air Lubrication System is one of the possible technologies that could help with this problem. The technique creates a layer of air under the keel of the vessel, which reduces the vessel's resistance. The reduction in drag, caused by the reduction of the vessel's resistance, results in a reduction in emission. Previously conducted studies and observations of vessels sailing with the Air Lubrication System, have proven that this technology works. Depending on certain factors, the system could reduce fuel consumption by 5-12%. This thesis investigates the possible impact of the Air Lubrication System on the environment and climate. This has been done by taking into account four possible aspects of the technology: the CO₂ reduction, possible antifouling, the addition of oxygen into the seawater and noise emission reduction. Based on the research one can conclude that this system on its own is not the final solution for the climate and environment approach of the maritime sector. But, in combination with other techniques and systems it could have a beneficial impact on the maritime emission worldwide.