

Life Cycle Assessment (LCA) is a method standardized by several institutions, like ISO. It is impossible to perform a full LCA of a merchant ship. There are relatively few scientific literatures that apply to LCA in the maritime sector. It is impossible to perform the full LCA of a vessel, from its construction to its dismantling. However, it can be carried out during certain periods of her life such as her operation time.

The study focuses on the combustion of three different fuels: MGO, HFO and LNG in a dual-fuel engine. To determine which of these three fuels is the cleanest, we have performed calculations and compared these results with existing publications.

LNG is not a perfect solution. There is still fossil fuel. It does not emit less greenhouse gases than MGO or HFO, mainly due to methane slip. Without a viable solution to solve this phenomenon, LNG would not be a viable solution for the future.

The LNG only seems to be transitory before the passage towards certain biofuels like the HVO or algal fuel.