

ESI Score: An insight to incentives for UK Ports

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This study focuses on the “Environment” and “Maritime Infrastructure” themes of Maritime 2050, a long-term strategy developed by the UK Department for Transport. The Environmental Ship Index has been chosen to examine its applicability in the UK ports as a “green incentive measure” with the aim of mitigating climate change, and therefore contributing to achieve Maritime 2050 goals. To this end, the paper analyses the UK Port Infrastructure as well as the relationship between ports and climate change. Following this, the research focuses on finding out the economic incentives of Environmental Ship Index for ports. Although shipping companies see clear incentives due to discounts on port dues, it is arguable the economic benefits for ports apart from a cleaner environment. This research aims to motivate ports to include this measure as a means of building on a competitive advantage based on social responsibility in a green era for maritime transport.

Addressing climate change impacts in the port sector is challenging, but an issue that needs to be taken into account. Climate Variability and Change (CV & C) impacts on seaports refer to sea level rise, storm surges, heat waves, extreme winds, and waves. In order to approach this problem, there are two main policy responses to climate change: mitigation and adaptation. While mitigation tries to address the causes by e.g. reducing greenhouse gases (GHG) emissions, adaptation aims to lower the risks caused by the climate change. The UK has been at the forefront of policies aiming to reduce GHGs sending a clear message that a switch to zero (or at least, close-to-zero) emission technologies is imminent and will deliver benefits for air quality. Following air quality issues, the “Clean Air Strategy 2019” is a UK government strategy that aims to address air pollution through the analysis of its sources. This programme focuses among others in NO_x and SO_x¹ as some of the main air pollutants. Due to the great importance of this topic, a specific mitigation strategy has been selected in this study: “green port fees”, and more specifically the ESI (Environmental Ship Index).

The ESI aims to be used by ports in order to reward ships that participate in the ESI with the main objective to promote clean ships. Although the ESI database will provide a total score per vessel, the rewards given by the port can be either based on that total or on each of its constituent parts separately. Despite the fact that ESI is voluntary, WPSP aims for the global port community to adopt this rewarding role in order to improve port environment. Moreover, increasing number of companies are keen on calculating ESI score to provide with information

¹ Nitrogen oxide (NO_x): It is a chemical compound of oxygen and nitrogen formed by reacting with each other during combustion at high temperatures, mainly combustion of fuel such as oil, diesel, gas, etc.

Sulphur oxides (SO_x) are made up of sulphur and oxygen molecules. The most common sulphur oxide is sulphur dioxide (SO₂), which is a colourless gas with a burnt match type smell.

to ships so these can take advantage of port dues discounts. Appendix A discusses the calculation of the index.

ESI is widely used by northern European countries and the leading country is Norway with 12 ports. The category “others” include countries with just one port using the index such as Spain (Port of Barcelona); Sweden (Port of Gothenburg); and United Kingdom (Port of London). Moreover, by June 2019, 8,358 ships had an ESI score that could be used as basis for a green port fee (ESI, 2019). Another issue related to the calculation of the ESI scores is the accuracy of the information. This is particularly important when it comes to indexes that depend on self-reporting by shipping companies. According to OECD (2018), 12.5% of the vessels have been found to be non-compliant with ESI audits.

ESI Index seems to provide an incentive for ports in order to build on a competitive advantage based on environmental sustainability. Therefore, by implementing this kind of mitigation strategy, ports protect their ports from climate change as well as moves from a low-cost competitive strategy to a differentiation strategy. This also aims to create better brand loyalty from clients. This loyalty comes from a considerable investment in research and development, in this case sustainable and environmental practices, and results in customers recognising the effort of ports in addressing climate change and becoming greener ports.

Hence, the fact that a UK port may incorporate the ESI Index into their green port incentives might become increasingly attractive. Consequently, this sends a sign to the potential customers that those ports take into account their responsibility in addressing climate change. Moreover, ports could take advantage of companies that have already started offering services regarding ESI Score calculation. Therefore, ports would save time on ESI calculations, although would be recommended to elaborate their own numbers to compare among the different companies and choose the more accurate one. Indeed, the fact that companies are giving importance to this index also reflects an interest and awareness about environmentally friendly practices that contribute to mitigate climate change. Finally, addressing climate change has become a delicate issue that has been proved to remain in the maritime industry for years to come. This is evidenced through upcoming regulation such as IMO 2020 and 2050, which focus out of the several topics on environmental issues. Consequently, a port that is aware of this potential challenge can work on converting it into an opportunity and a competitive advantage for the port.

As a recommendation on policy making for the UK ports in the future, this research study has led to suggest the combination of multiple instruments to address climate change mitigation. Although ESI Index is proved to contribute to reduce effects of climate change, it is recommendable that it is combined with other indexes and implement a programme similar to EcoAction. Moreover, another proposal is to work on a fund in which shipping companies contribute that can be used for innovation in shipping related to emissions such as the Norwegian NO_x Fund. Finally, whether the UK decides to introduce ESI Index, this research concludes that it is necessary both a positive reward for the cleanest vessels (port dues reduction) and a penalty to the most pollutant ships. In the first case, ports could be subsidised by the government or any other organisation and in the second scenario, penalties charged to those shipping companies could be used by ports to invest in implementation of other kinds of mitigation instruments or adaption of the ports to climate change.

Eventually, it is recommended that ports study their port freight characteristics as this will lead to prioritise on what kind of vessels are most likely to visit the ports and therefore need to be more taken into account. As a consequence, policy making for specific types of vessel (such as Ro-Ro vessels in Port of Dover) could be made in order to promote this financial incentive to them.