
recursos naturales e infraestructura

Report on maritime transport and the environment for Latin America

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Abstract

This report presents information on the environmental impact of vessels during their general operation. It is shown that the emissions from vessels can substantially contribute to local air quality problems over land and also impact the climate change process.

Up to now, the contribution of the maritime sector to air quality problems in Latin American and Caribbean coastal cities has received little or no attention. Studies for the United States and Europe show that the contribution of this sector may however be significant. Given the persistence of air quality problems in Latin America, it appears worthwhile to consider this sector in emission inventories and mitigation policies.

The recommendations at the end of the report include several measures that may be implemented at little or no costs, but that do provide incentives to improve the environmental performance of the sector. Based on further research on the particular contribution of the shipping sector to air quality problems, more far reaching measures may have to be considered. With respect to climate change, it is recommended to stimulate participation in trials with the IMO CO₂ index that is under development.

I. Introduction

The aim of this report is to provide a general background on the impact maritime transport has on the environment. We will discuss the different emissions caused by vessels and how they may impact human health, local and global environment. Best practice measures and policy developments from around the world aimed at limiting the impact of shipping on the environment will be discussed. Special attention will be given to the role Latin America can play in these processes.

In the past, discussions on the impact of maritime shipping on the environment have often been in conjecture with discussions on maritime safety. Pollution from the maritime shipping sector was mainly seen as a safety problem. From an historical perspective, this is not altogether incorrect bringing into remembrance the enormous environmental impacts from oil spills resulting from accidents. Examples are the incident with the Exxon Valdez near Alaska in 1989, and from more recent times the sunken Erika (1999) and the Prestige (2002) near the coasts of Europe.

In this report, however, the focus will be on the impact of maritime shipping on the environment as a result of the general operation of the vessel. This is further refined to the impact on local air quality of the emissions of local air pollutants and the impact on climate change due to emission of greenhouse gases (GHG).

The impacts from collisions and other safety aspects will not be considered, nor will sewage, ballast water and trash. This is not to say that these are very important issues, but they will not be dealt with in this report.

Maritime shipping is generally regarded as an environmentally friendly mode of transport. Compared to other transport modes, emissions of greenhouse gases are often much lower per ton kilometer.¹ For this reason, shifting freight transport by road to sea is in some regions regarded desirable from an environmental perspective and is sometimes an official policy aim. However, the impact of maritime transport on the environment is very substantial due to the sheer size of the sector. Mitigation of greenhouse gases is becoming a more and more important topic in the international policy scene. It is said that many relatively cheap mitigation measures can be taken in the maritime shipping sector.

The shipping sector is often thought to play only a minor role in local air pollution, because most emissions take place at sea. However, especially in densely populated coastal areas and ports, the impact of shipping may be substantial. This is substantiated by numerous studies for United States and European Unit ports.

In general it appears however, that knowledge on the environmental impact of shipping is not widespread yet in Latin America and the Caribbean. This report aims to partially rectify this. There are several reasons why this may be an interesting subject for this region.

First of all, in Latin America and the Caribbean there are significant problems with local air quality in large (coastal) cities. So far, the contribution of the shipping sector to these problems has hardly been analyzed or reviewed for the Latin American situation. Based on research for United States and European Unit ports, it appears plausible that the shipping sector may contribute substantially to problems. This implies that measures in this sector may offer part of the solution.

Second, if indeed the shipping sector contributes to local air quality problems, now may be a very appropriate moment to take measures. The sector is growing rapidly (UNCTAD, 2005) and requires new investments in infrastructure. It is a lot cheaper to be able to take environmental issues into account when designing new infrastructure, than having to adjust for it after the infrastructure has been taken in use. Moreover, in times of expansions and investment the support for measures may be larger than in times of overcapacity and tight markets.

Third, especially in the United States and the European Unit, increased attention is being paid to the shipping sector as contributing substantially to greenhouse gases and local air quality problems. Mitigation measures in many other sectors are being implemented. Despite these efforts, also in the other transport modes, problems remain. Therefore the contribution from short sea shipping and ships movements inside or near ports to local air pollution is receiving increased attention. Because the shipping sector has so far been somewhat overlooked, it is expected that relatively cheap abatement measures are available in the sector. Such regional United States or European Unit regulations will impact Latin American ship owners and shippers.

In the fourth place the developments within the IMO should be recorded. Although Latin

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