



Independent Statistics & Analysis
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Administration

Marine Fuel Choice for Ocean-Going Vessels within Emissions Control Areas

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Introduction

The U.S. Energy Information Administration (EIA) contracted with Leidos Corporation to analyze the impact on ocean-going vessel fuel usage of the International Convention for the Prevention of Pollution from Ships (MARPOL) emissions control areas in North America and the Caribbean.

Leidos developed a new methodology for calculating fuel consumption by ocean-going maritime vessels in the United States within emission control areas by:

- Establishing a fuel usage methodology baseline for ocean-going vessels by U.S. Census Division and Puerto Rico for several ship types and energy and non-energy commodities
- Discussing relevant MARPOL and associated U.S. Environmental Protection Agency emissions regulations and major emissions compliance strategies, including exhaust scrubber controls, fuel switching to liquefied natural gas, and engine-based controls
- Creating a methodology for projecting ocean-going vessel travel demand by commodity and ship type, ship efficiency, and fuel choice by various compliance choices

In addition, Leidos recommended study of additional issues for future model improvements as more data become available. These include:

- Expanding the scope of the marine fuel estimates to include travel beyond North American and Caribbean emission control areas and Great Lakes and inland waterway transit
- Expanding the scope to include fuel usage estimates tied to U.S. ports for tugs, barges, and lightering vessels, fishing vessels, cruise ships, and other commercial vessels
- Fractioning the fuel purchases made in the United States versus abroad
- Improving the future projections of fuel usage, including slow steaming and auxiliary power needs, and technology adoption

EIA plans to update the upcoming *Annual Energy Outlook 2016* to include a new methodology for calculating the amount of fuel consumption by ocean-going vessels traveling through North American and Caribbean emissions control areas, including the impact of compliance strategies. Further, EIA plans to update the methodology for calculating ocean going vessel energy demand to include estimation of fuel consumption by ship type and commodity moved. The new methodology will also estimate energy consumption within and outside emission control areas. In addition, EIA will explore the interplay between refinery operation, refined product slates, and marine fuels in light of the impact of emission regulations.

Appendix A
