

1. Record Nr.	UNINA9910964462303321
Titolo	Air pollution and ship emissions // Jacob Boutin, editor
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61324-172-0
Edizione	[1st ed.]
Descrizione fisica	1 online resource (200 p.)
Collana	Air, water and soil pollution science and technology
Altri autori (Persone)	BoutinJacob
Disciplina	363.739/2
Soggetti	Merchant marine - Environmental aspects - Government policy - United States Combustion gases - Environmental aspects Ships - Environmental aspects Air quality management - Government policy - United States Air - Pollution
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- AIR POLLUTION AND SHIP EMISSIONS -- AIR POLLUTION AND SHIP EMISSIONS -- CONTENTS -- PREFACE -- Chapter 1 AIR POLLUTION AND GREENHOUSE GAS EMISSIONS FROM SHIPS -- SUMMARY -- INTRODUCTION -- MARPOL ANNEX VI -- Provisions of Annex VI -- Implementing Legislation (P.L. 110-280) -- Amendments to Annex VI -- EPA Regulations -- OTHER LEGISLATION -- FEDERAL, STATE, AND LOCAL MEASURES -- EPA Regulations -- Category 3 Engines -- Category 1 and 2 Engines -- California Emission Reduction Measures -- Low Sulfur Fuels -- Emission Controls -- Alternative Power -- Grants -- GREENHOUSE GASES -- International Efforts to Address GHGs -- Shipping vs. Other Transport Modes -- Measures to Reduce Ships' GHG Emissions -- CONCLUSION -- End Notes -- Chapter 2 EMISSION CONTROL AREA PROPOSAL FOR SHIPS FACT SHEET -- REGULATORY ANNOUNCEMENT: PROPOSAL OF EMISSION CONTROL AREA DESIGNATION FOR GEOGRAPHIC CONTROL OF EMISSIONS FROM SHIPS -- EPA-420-F-09-015, March 2009 -- Overview -- The Need to Reduce Emissions from Engines on Ships -- Emission Control Area Standards -- Costs -- Benefits -- Next Steps -- End Notes -- Chapter 3 EPA NEEDS TO IMPROVE ITS EFFORTS TO REDUCE AIR EMISSIONS AT

U.S. PORTS -- ABBREVIATIONS -- WHY WE DID THIS REVIEW --
BACKGROUND -- WHAT WE FOUND -- WHAT WE RECOMMEND --
ACTION REQUIRED -- 1. INTRODUCTION -- Purpose -- Background --
Sources of Emissions -- Impacts of Air Pollution from Port Activities --
Projected Port Growth and Impacts -- EPA's Multipronged Approach to
Reducing Emissions at U.S. Ports -- EPA Regulatory Authority -- Key
EPA Voluntary Strategies - Clean Ports USA Program, SmartWay
Transport Partnership, and Regional Diesel Collaboratives -- EPA's
Work with the International Maritime Organization -- Noteworthy
Achievements -- Scope and Methodology.

2. RECENT AGENCY AND INTERNATIONAL ACTIONS HAVE POTENTIAL
TO SIGNIFICANTLY REDUCE HARMFUL EMISSIONS FROM OCEANGOING
VESSEL ENGINES -- Air Emissions from Large Oceangoing Vessel
Engines Have Been Essentially Unregulated by EPA -- NOx -- PM and
SOx -- CO, HC, and Air Toxics -- EPA Has Chosen to Defer Taking a
Position on Whether It Has Authority to Regulate Foreign-Flagged
Vessel Engine Emissions -- EPA Stated a Need to Regulate Foreign-
Flagged Vessel Engine Emissions in 2002 -- Agency Efforts Have Only
Recently Resulted in an International Agreement Which Could Achieve
Substantial Emission Reductions -- Proposed Revisions to MARPOL
Annex VI Adopted -- Comparing the IMO Agreement and the U.S.
Proposal -- Importance of IMO Emission Control Areas -- Next Steps in
the IMO Process -- EPA's Delay in Controlling Oceangoing Vessel
Engine Emissions May Have Long-Term Effects -- Conclusions --
Recommendations -- Agency Comments and OIG Evaluation -- 3.

IMPLEMENTING EPA'S APPROACH TO REDUCING AIR EMISSIONS AT U.S.
PORTS NEEDS IMPROVING -- EPA's Approach Is Incomplete -- Limited
Data to Verify Results of Voluntary Actions -- Voluntary Initiatives Have
Not Been Implemented at Many U.S. Ports -- Opportunities Exist to
Improve Participation in Regional Diesel Collaboratives -- EPA Verified
Technologies Are Major Component of Voluntary Emission Reduction
Efforts, But Funding is Limited -- Limited Resources for Implementing
EPA's Efforts to Reduce Port Emissions -- EPA's New Strategy for
Sustainable Ports Lacks a Transformation Plan -- Conclusions --
Recommendation -- Agency Comments and OIG Evaluation -- STATUS
OF RECOMMENDATIONS AND POTENTIAL MONETARY BENEFITS --

APPENDIX A. PROJECTED GROWTH OF U.S. PORTS DUE TO CONTAINER
SHIPPING -- APPENDIX B. KEY EPA REGULATIONS FOR FIVE MAJOR
SOURCES OF PORT EMISSIONS -- Oceangoing Vessels -- Heavy-Duty
Diesel Trucks.
Cargo-Handling Equipment -- Harbor Craft and Locomotives --

APPENDIX C. DETAILS ON SCOPE AND METHODOLOGY -- Review of
Management (Internal) Controls -- Prior Reports -- Prior GAO Reports
-- APPENDIX D. DETAILS ON EPA'S RATIONALE FOR NOT TAKING A
POSITION ON WHETHER IT HAS AUTHORITY TO REGULATE FOREIGN-
FLAGGED VESSELS -- APPENDIX E. TIMELINE OF SELECTED EPA
REGULATORY ACTIONS SINCE 1990 TO ADDRESS AIR EMISSIONS FROM
PORT SOURCES -- APPENDIX F. SUMMARY OF REVISED MARPOL ANNEX
VI STANDARDS ADOPTED BY THE IMO IN OCTOBER 2008 -- APPENDIX
G. STATUS OF PARTICIPATION IN REGIONAL DIESEL COLLABORATIVES
FOR PORTS IN NONATTAINMENT AREAS -- APPENDIX H. DETAILS OF
EPA'S STRATEGY FOR SUSTAINABLE PORTS -- APPENDIX I. AGENCY
RESPONSE TO DRAFT REPORT -- Recommendations-Chapter 2 --
Recommendation-Chapter 3 -- General Comments and/or
Clarifications -- APPENDIX J. OIG EVALUATION OF AGENCY RESPONSE
-- APPENDIX K. DISTRIBUTION -- End Notes -- Chapter 4 FAQ ON
EMISSION CONTROL AREA -- WHAT ARE THE INTERNATIONAL MARINE
STANDARDS AND WHY IS APPLICATION FOR AREA DESIGNATION

NECESSARY? -- WHO CAN APPLY FOR ECA DESIGNATION? -- WHAT ARE THE REQUIRED COMPONENTS OF AN ECA APPLICATION? -- WHAT IS THE EXPECTED TIMELINE FOR THE U.S. ECA APPLICATION TO THE IMO? WHEN AN APPLICATION IS SUBMITTED, WHAT ARE THE STEPS AND TIME-LINE FOR APPROVAL AND FOR IMPLEMENTATION? -- HOW WOULD VESSEL OPERATORS BE AFFECTED? -- ARE THERE ANY ECAS CURRENTLY IN EFFECT? -- IS THE U.S. INTENDING TO SUBMIT A JOINT APPLICATION WITH CANADA AND/OR MEXICO? -- HOW FAR OFF THE U.S. COASTLINE WILL THE ECA EXTEND? HOW WILL PRACTICALITIES LIKE THE SOVEREIGN WATERS OF ADJACENT NATIONS BE HANDLED IN THE APPLICATION? -- WILL THE COASTS OF ALASKA AND HAWAII (AND OTHER U.S. TERRITORIES) BE INCLUDED IN THE APPLICATION? IF NOT, CAN THEY BE INCLUDED IN THE FUTURE?.

WILL DESIGNATION OF A U.S. ECA ENCOURAGE SHIPPING LINES TO DIVERT "DISCRETIONARY" SHIPMENTS AWAY FROM U.S. PORTS (IN FAVOR OF NEARBY PORTS NOT WITHIN THE DESIGNATED ECA)? -- WILL THE LOW-SULFUR FUEL THAT MEETS THE ECA REQUIREMENTS BE AVAILABLE WHEN THE U.S. ECA GOES INTO FORCE? WHAT WILL HAPPEN IF THE FUEL IS NOT AVAILABLE IN TIME? -- WHAT ARE THE PROJECTED HEALTH BENEFITS FROM A U.S. ECA DESIGNATION? PROJECTED ECONOMIC BENEFITS? HOW DO THESE OUTWEIGH THE DIFFERENTIAL FUEL COSTS? -- HOW WOULD A U.S. ECA BE IMPLEMENTED AND ENFORCED UNDER U.S. LAW? -- HOW DOES AN ECA FIT INTO EPA'S CLEAN AIR ACT PROGRAM? --

End Notes -- Chapter 5 INTERNATIONAL MARITIME ORGANIZATION ADOPTS PROGRAM TO CONTROL AIR EMISSIONS FROM OCEANGOING VESSELS -- WHAT DID THE IMO DO? -- WHAT SHIPS ARE AFFECTED? -- HOW DO OCEANGOING VESSELS HARM U.S. AIR QUALITY? -- WHAT WILL THIS PROGRAM MEAN FOR THE ENVIRONMENT? -- WHY IS THE IMO PROCESS IMPORTANT? -- WHAT ARE THE NEW STANDARDS? -- HOW DOES THIS RELATE TO EPA'S RECENT ADVANCE NOTICE ON REDUCING POLLUTION FROM OCEANGOING VESSELS? --

Chapter 6 PROPOSAL TO DESIGNATE AN EMISSION CONTROL AREA FOR NITROGEN OXIDES, SULPHUR OXIDES AND PARTICULATE MATTER -- SUMMARY -- INTRODUCTION -- SUMMARY OF PROPOSAL -- Populations and Areas at Risk -- Contributions from Ships to Adverse Impacts -- Description of Area -- Ship Traffic and Meteorological Conditions -- Land-Based Emissions Controls -- Estimated Costs -- CONCLUSION -- ACTION REQUESTED --

ANNEX 1. INFORMATION RESPONDING TO THE CRITERIA IN APPENDIX III TO ANNEX VI -- 1. Introduction -- 1.1. Countries Submitting this ECA Proposal -- 1.2. Criteria for Designation of an Emission Control Area -- 2. Description of Area Proposed for ECA Designation -- 2.1. Proposed Area of Application -- 2.2. Types of Emissions Proposed for Control -- 2.2.1. SOX and PM -- 2.2.2. NOX. 2.2.3. Other Forms of Pollutants -- 2.3. Populations and Areas at Risk from Exposure to Ship Emissions -- 2.4. Conclusion -- 3. CONTRIBUTION OF SHIPS TO AIR POLLUTION AND OTHER ENVIRONMENTAL PROBLEMS -- 3.1. Synopsis of the Assessment -- 3.2. U.S. and Canadian Emissions Inventory Summary -- 3.2.1. Emissions Inventory Modelling and Inputs for 2020 Current Performance Scenario -- 3.2.2. Emissions Inventory Development for 2020 ECA Performance Scenario -- 3.3. Ships' Contribution to Ambient Air Quality -- 3.3.1. Overview of Air Quality Modelling -- 3.3.2. Ships' Contribution to Ambient PM2.5 and Ozone Air Pollution in the U.S. -- 3.3.2.1. PM2.5 Contribution -- 3.3.2.2. Ozone Contribution -- 3.3.3. Ships' Contribution to Ambient Air Pollution in Canada -- 3.3.4. Improvement of Ambient Air Quality in the U.S. with the ECA -- 3.3.5. Improvement of Ambient Air Quality in Canada with the ECA -- 3.3.6. Conclusions --

4. Impact of Emissions from Ships on Human Health -- 4.1. Health Effects Related to Exposure to Air Pollutants -- 4.1.1. Nature of PM Health Effects -- 4.1.2. Nature of Ozone Health Effects -- 4.2. Quantified Human Health Impacts from Exposure to Ship Emissions -- 4.2.1. U.S. Human Health Impacts -- 4.2.2. Canadian Human Health Impacts -- 4.3. Conclusion -- 5. Impact of Emissions from Ships on Ecosystems -- 5.1. Overview of Deposition Resulting from Ship NOX, SOX and PM Emissions -- 5.1.1. Environmental and Ecosystem Impacts and Areas at Risk -- 5.1.2. U.S. Modelling Results for Sulphur and Nitrogen Deposition -- 5.1.3. Canadian Modelling Results for Sulphur and Nitrogen Deposition -- 5.1.4. Exceedances of Ecosystem Critical Deposition Loads in Canada Resulting from Ship Emissions -- 5.2. Impacts Associated with Deposition of PM_{2.5} and Air Toxics -- 5.3. U.S. Visibility Impacts -- 5.4. Ozone Impacts on Forest Health -- 5.5. Conclusion.
6. ROLE OF METEOROLOGICAL CONDITIONS IN INFLUENCING AIR POLLUTION.

Sommario/riassunto

As pollution from cars, trucks, and land-based stationary sources has been more tightly controlled over the last 40 years, the contribution of ships and port operations to air pollution in port cities has become more important. This book provides information regarding pollution from ships and port facilities.
