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| Nota di contenuto       | Intro -- AVIATION AND CLIMATE CHANGE -- AVIATION AND CLIMATE CHANGE -- CONTENTS -- PREFACE -- Chapter 1 AVIATION AND CLIMATE CHANGE: AIRCRAFT EMISSIONS EXPECTED TO GROW, BUT TECHNOLOGICAL AND OPERATIONAL IMPROVEMENTS AND GOVERNMENT POLICIES CAN HELP CONTROL EMISSIONS -- WHY GAO DID THIS STUDY -- WHAT GAO FOUND -- ABBREVIATIONS -- BACKGROUND -- AVIATION EMISSIONS REPRESENT A SMALL BUT GROWING SHARE OF ALL EMISSIONS -- Aviation Contributes about 2 Percent of Global Carbon Dioxide Emissions -- Aviation Contributes about 3 Percent of All Human- Generated Emissions -- Global Aviation Emissions Are Expected to Grow but Forecasts Vary, Primarily Reflecting Different Economic Growth Assumptions -- Forecasts of global economic growth and air traffic primarily drive IPCC's emissions estimates -- Other forecasts show continued long-term growth, but emissions could fall below estimated levels during the current economic downturn -- Assumptions about other factors could affect IPCC's forecasts -- EXPERTS BELIEVE FUTURE TECHNOLOGICAL AND OPERATIONAL IMPROVEMENTS ARE LIKELY TO HELP REDUCE EMISSIONS FROM COMMERCIAL AIRCRAFT, BUT LIKELY NOT BY ENOUGH TO FULLY |

OFFSET ESTIMATED MARKET GROWTH -- Experts Believe That Although Many Technologies Are Expected to Help Reduce Emissions Growth in the Future, They Involve Trade-offs -- Aircraft Engine Improvements -- Aircraft Improvements -- Experts Also Expect Operational Improvements to Help Reduce Aircraft Emissions in the Future, but Reductions May Be Limited -- Air Traffic Management Improvements through NextGen Will Incorporate Technological and Operational Improvements to Help Reduce Aircraft Emissions According to Experts -- Alternative Fuel Sources Have Potential for Reducing Aircraft Greenhouse Gas Emissions, but Challenges Exist. Improvements to Reduce Emissions from Aircraft Face Challenges and According to Experts Adopting Them May Not Be Enough to Offset Future Market and Emissions Growth -- GOVERNMENTS CAN USE A VARIETY OF POLICY OPTIONS TO HELP REDUCE COMMERCIAL AIRCRAFT EMISSIONS, BUT THE COSTS AND BENEFITS OF EACH VARY -- Market-Based Policies Could Be Used to Provide Airlines and Other Sources with an Economic Incentive to Reduce Greenhouse Gas Emissions -- Cap-and-Trade Program -- Cap-and-Trade Plans and Legislation -- Emissions Taxes -- Subsidies -- Distribution of Costs under Market-based Measures -- EMISSIONS STANDARDS COULD LIMIT EMISSIONS FROM SPECIFIC TECHNOLOGIES, BUT ARE GENERALLY NOT AN ECONOMICALLY EFFICIENT APPROACH FOR REDUCING GREENHOUSE GAS EMISSIONS -- Government-Sponsored Research and Development Can Help Encourage the Development and Adoption of Low-Emissions Technologies, but May Be Costly to Governments -- AGENCY COMMENTS AND OUR EVALUATION -- APPENDIX I. LEGAL IMPLICATIONS OF EUROPEAN UNION EMISSIONS TRADING SCHEME -- EU ETS Law -- Legal Implications of the ETS -- Stakeholder Positions on Legal Issues -- Stakeholder Positions within the United States -- Stakeholder Positions outside the United States -- Legal Scholar/Researcher Views -- Potential Legal Challenges and Dispute Resolution -- APPENDIX II. LIST OF EXPERTS -- APPENDIX III. DETAILED SURVEY RESULTS -- Introduction -- Instructions for Completing This Tool -- Part 1. Technology Options -- Part 2. Operational Options -- Part 3. Alternative Fuel Options -- APPENDIX IV: SCOPE AND METHODOLOGY -- APPENDIX V: COMMENTS FROM THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION -- APPENDIX VI: COMMENTS FROM THE ENVIRONMENTAL PROTECTION AGENCY -- END NOTES -- Chapter 2 AVIATION & EMISSIONS - A PRIMER -- WHAT EMISSIONS COME FROM AVIATION? -- WHAT DETERMINES AVIATION EMISSIONS? -- WHAT HAVE BEEN THE TRENDS ON AVIATION EMISSIONS? -- HOW DO AVIATION EMISSIONS COMPARE TO GENERAL TRENDS IN LOCAL AIR POLLUTANTS? -- HOW DO AVIATION LOCAL EMISSIONS COMPARE TO OTHER TRANSPORTATION SOURCES? -- CAN A COMPARISON BE MADE BETWEEN AVIATION EMISSIONS AND NON-TRANSPORTATION SOURCES? -- WHAT ROLE DOES AVIATION EMISSIONS PLAY WITH REGARD TO GREENHOUSE GAS ISSUES? -- HOW DO AVIATION'S GREENHOUSE GAS EMISSIONS COMPARE TO OTHER TRANSPORTATION SOURCES? -- HOW ARE AVIATION EMISSIONS REGULATED? -- WHAT IS BEING DONE TODAY TO REDUCE AVIATION EMISSIONS? -- WHAT STEPS ARE BEING TAKEN TO REDUCE AVIATION EMISSIONS IN THE LONGER-TERM? -- AVIATION EMISSIONS ARE BEING RESPONSIBLY CONTROLLED -- End Notes -- Chapter 3 HEARING ON AVIATION AND THE ENVIRONMENT: EMISSIONS -- Chapter 4 HEARING ON AVIATION AND THE ENVIRONMENT: EMISSIONS -- BACKGROUND -- NATA CLIMATE INITIATIVE -- PUBLIC RELATIONS CAMPAIGN -- INDUSTRY ACTIONS -- NetJets Inc. -- DayJet Corporation -- Introduction -- Tropospheric Flight -- LEGISLATIVE

ACTIONS -- End Notes -- Chapter 5 STATEMENT OF DANIEL K. ELWELL ON AVIATION EMISSIONS -- End Notes -- Chapter 6 WRITTEN TESTIMONY OF DR. DAVID W. FAHEY ON AVIATION AND THE ENVIRONMENT: EMISSIONS -- INTRODUCTION -- WHAT ARE THE ASPECTS OF AVIATION OPERATIONS THAT LEAD TO CLIMATE FORCING (OR CHANGE)? -- WHAT ARE THE UNCERTAINTIES IN EVALUATING THE IMPACT OF AVIATION OPERATIONS ON CLIMATE FORCING (OR CHANGE)? -- WHAT ARE THE GAPS IN OUR KNOWLEDGE ON CLIMATE FORCING FROM AVIATION? -- SUMMARY -- REFERENCES -- Chapter 7 AVIATION AND THE ENVIRONMENT: EMISSIONS AND THE COMMERCIAL AIRLINES' CLIMATE CHANGE COMMITMENT -- INTRODUCTION AND OVERVIEW -- Commercial Aviation is Extremely GHG Efficient -- ATA Airlines Are Proactively Committed to Further Limiting Their Emissions Footprint -- Congress Has a Positive, Partnering Role to Play -- CONCLUSION.

End Notes -- Chapter 8 AVIATION AND THE ENVIRONMENT: NEXTGEN AND RESEARCH AND DEVELOPMENT ARE KEYS TO REDUCING EMISSIONS AND THEIR IMPACT ON HEALTH AND CLIMATE -- WHY GAO DID THIS STUDY -- WHAT GAO FOUND -- SUMMARY -- AVIATION'S SMALL BUT GROWING PROPORTION OF TOTAL EMISSIONS CONTRIBUTES TO HEALTH AND ENVIRONMENTAL EFFECTS -- KEY FEDERAL EFFORTS TO ADDRESS AVIATION EMISSIONS INCLUDE NEAR-TERM OPERATIONAL CHANGES AND LONGER-TERM R&D INITIATIVES -- NextGen Initiatives Have the Potential to Help Reduce Emissions -- Federal R&D Focuses on Long-Term Approaches to Addressing Aviation Emissions -- FAA Supports Research on Improving the Scientific Understanding of Aviation Emissions and on Alternative Fuels -- NASA Conducts Fundamental Aeronautics R&D in Support of NextGen, Including Efforts That Can Help Lower Emissions -- SEVERAL STEPS CAN BE TAKEN TO HELP REDUCE AVIATION EMISSIONS, BUT CHALLENGES REMAIN TO BE ADDRESSED -- Expediting the Implementation of NextGen Can Help Reduce Aviation Emissions -- Management improvements can move nextgen forward more efficiently -- Deploying available NextGen components can demonstrate their ability to operate together and achieve anticipated efficiencies -- Resolving Aeronautics R&D Funding Issues Is a Further Step in Addressing Aviation Emissions -- Reducing the Impact of Aviation Emissions Poses Technical, Financial, and Regulatory Challenges -- Simultaneously Addressing Air Pollutants, Greenhouse Gases, and Noise from Aircraft Presents Technical Challenges -- The Financial Condition of the Airline Industry Creates a Challenge to Implementing Emissions-Reduction Technologies -- More Stringent Regulatory Standards Pose Challenges for Airport Expansion Projects.

Market-Based Initiatives to Reduce Aviation Emissions of Greenhouse Gases Could Pose Challenges for U.S. Airlines by Increasing Their Costs -- APPENDIX I. FEDERAL AGENCY VIEWS ON HEALTH AND ENVIRONMENTAL EFFECTS OF AIR POLLUTION -- APPENDIX II. EXAMPLES OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION'S RESEARCH AND DEVELOPMENT PROGRAMS SUPPORTING NEXTGEN -- End Notes -- Chapter 9 AVIATION AND CLIMATE CHANGE -- SUMMARY -- INTRODUCTION -- AIRCRAFT EMISSIONS -- REDUCING EMISSIONS: NON-REGULATORY FACTORS -- Fuel Cost -- Air Traffic Control -- REGULATING AIRCRAFT UNDER THE CLEAN AIR ACT -- PROPOSED CAP-AND-TRADE LEGISLATION -- INTERNATIONAL DEVELOPMENTS -- European Union -- ICAO -- CONCLUSION -- End Notes -- CHAPTER SOURCES -- INDEX -- Blank Page.

aviation accounts for about 2 per cent of human-generated global carbon dioxide emissions. This book discusses the IPCC's medium-range estimate forecasts that by 2050 the global aviation industry can emit about 3 percent of global carbon dioxide emissions.

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