

Report to Congress on Black Carbon

Department of the Interior, Environment, and Related Agencies
Appropriations Act, 2010



March 2012

EPA-450/R-12-001
March 2012

Report to Congress on Black Carbon

U.S. Environmental Protection Agency

Office of Air Quality Planning and Standards

Office of Atmospheric Programs

Office of Radiation and Indoor Air

Office of Research and Development

Office of Transportation and Air Quality

Acknowledgments

Lead Authors

Erika Sasser (Chair)
James Hemby (Vice-Chair)
Ken Adler
Susan Anenberg
Chad Bailey
Larry Brockman
Linda Chappell
Benjamin DeAngelo
Rich Damberg

John Dawson
Neil Frank
Michael Geller
Gayle Hagler
Brooke Hemming
Lesley Jantarasami
Thomas Luben
John Mitchell
Jacob Moss

Venkatesh Rao
Joann Rice
Marcus Sarofim
Joseph Somers
Charlene Spells
Sara Terry
Matthew Witosky

Contributing Authors

Farhan Akhtar
Bryan Bloomer
Edmund Coe
Amanda Curry Brown
Penny Carey (retired)
Jason DeWees
Pat Dolwick
Robin Dunkins
Dale Everts
Brian Gullett
John Guy (retired)
Beth Hassett-Sipple
Michael Hays

Carey Jang
Jim Jetter
Terry Keating
John Kinsey
Amy Lamson
Robin Langdon
Bill Linak
Bryan Manning
Allison Mayer
Harvey Michaels
Andy Miller
Ron Myers
Glenn Passavant

Rob Pinder
Marc Pitchford
Adam Reff
Michael Rizzo
Charles Schenk
Darrell Sonntag
Larry Sorrels
Lauren Steele
Nicholas Swanson
Lori Tussey
Karen Wesson
Gil Wood
Rosa Yu

Additional Contributions to the Report

Jamie Bowers
Devin Hartman

Megan Melamed
Joseph Tikvart

Project Support

Lourdes Morales
Joseph Dougherty

Report Production

Sonoma Technology, Inc.
Steve Brown
Chelsea Jennings
Marina Michaels
Jana Schwartz

Editorial Support

Stratus Consulting
Nimmi Damodaran
Joe Donahue

Acknowledgments

Peer Review

Council on Clean Air Compliance Analysis, Black Carbon Review Panel

C. Arden Pope, III (Chair)	Ivan J. Fernandez	Denise Mauzerall
Alberto Ayala	H. Christopher Frey	Surabi Menon
Michelle Bell	Jan Fuglestvedt	Richard L. Poirot
Kevin J. Boyle	D. Alan Hansen	Armistead (Ted) Russell
Sylvia Brandt	Joseph Helble	Michael Walsh
Linda Bui	Mark Jacobson	John Watson
James J. Corbett	Jonathan Levy	

EPA Science Advisory Board Staff

Stephanie Sanzone
Vanessa Vu

Contributing Federal Departments and Agencies

Centers for Disease Control and Prevention
Council on Environmental Quality
Department of Energy
Department of Transportation
Federal Highway Administration
Federal Aviation Administration
National Aeronautics and Space Administration
National Institute of Child Health and Human Development
National Institute of Environmental Health Sciences
National Institute of Standards and Technology
National Oceanic and Atmospheric Administration
Natural Resources Conservation Service
Office of Management and Budget
Office of Science and Technology Policy
United States Department of State
United States Agency for International Development
United States Department of Agriculture
United States Forest Service

Special Photo Credits

Cookstove in Guatemala (*Cover*): Nigel Bruce, University of Liverpool, UK
Brick Kiln in Kathmandu (*Highlights*): Sara Terry, U.S. Environmental Protection Agency
Outdoor Wood Boiler (*Highlights*): Philip Etter, Vermont Department of Environmental Conservation