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### BLACK CARBON RESEARCH BILL

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JULY 22, 2009.—Ordered to be printed

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Mrs. BOXER, from the Committee on Environment and Public Works, submitted the following

### R E P O R T

[To accompany S. 849]

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred the bill (S. 849) to require the Administrator of the Environmental Protection Agency to conduct a study on black carbon emissions, reports favorably thereon without amendment, and recommends that the bill do pass.

#### PURPOSES OF THE LEGISLATION

S. 849 would require the Administrator of the Environmental Protection Agency to conduct a study of black carbon emissions.

#### GENERAL STATEMENT AND BACKGROUND

Scientists have found that black carbon, a key component of soot, likely plays a much larger role in global warming than previously estimated. Soot is also part of the mix of particles that contribute significantly to air pollution related illness and mortality.

Black carbon is produced from the incomplete combustion of biomass, biofuels, and fossil fuels, particularly diesel. Black carbon absorbs solar radiation, warming the atmosphere. Because black carbon's atmospheric life span is short, only a matter of days or weeks, reducing black carbon emissions likely will have an immediate impact on reducing localized warming effects. Black carbon is of particular concern in the Arctic region because it settles on ice and snow, reducing its reflectivity and increasing the rate of melting. According to some estimates, black carbon may be responsible for up to 30 percent of the warming that is occurring in the Arctic.

While significant emissions of black carbon are emitted from the developed world, the majority of emissions are from the developing world.

Reducing black carbon emissions in the United States would also have the benefit of reducing global premature mortalities and other public health impacts. Because of the significant potential benefits of reducing black carbon emissions, it is imperative that the Administrator of the Environmental Protection Agency conduct a study of the sources and quantities of black carbon emission, climate and health related impacts, potential cost-effective control technologies, areas for international action, areas for additional research, and additional actions that the Federal Government should take to reduce black carbon emissions.

#### SECTION-BY-SECTION ANALYSIS

##### *Section 1. Findings*

Section 1 includes the following Congressional findings:

(1) black carbon is a component of ambient particulate matter, the mixture of which has been found to harm public health by causing serious respiratory and cardiovascular effects in developed and developing countries;

(2) black carbon plays a role in climate change by (A) absorbing solar radiation; and (B) reducing the reflectivity of snow and ice;

(3) black carbon is emitted from incomplete combustion of fossil fuels, biomass, and biofuels;

(4) recent studies have shown that, in the United States, old diesel engines are a major contributor of black carbon;

(5) the United States has made great progress in reducing black carbon emissions through regulations on new vehicles and engines and a voluntary national diesel retrofit program; but there remain in the United States more than 11,000,000 diesel engines lacking the latest diesel emission control technology; and

(6) the collection of information relating to, and research regarding, black carbon would be useful to identify cost-effective methods of reducing black carbon emissions in ways and from sources that would have beneficial effects on the public health and the climate.

##### *Section 2. Definitions*

Section 2 defines the following terms:

(1) The Administrator as the Administrator of the Environmental Protection Agency; and

(2) black carbon as any light-absorbing graphitic (such as elemental) particle produced by incomplete combustion.

##### *Section 3. Study by administrator of black carbon emissions*

###### *Subsection (a)—Study*

Subsection (a) requires the Administrator, in consultation with the Secretary of Energy, the Secretary of State, and the heads of the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the United States Agency for International Development, the National Institutes of

Health, the Centers for Disease Control and Prevention, and other relevant Federal departments and agencies and representatives of appropriate industry and environmental groups to study the impacts of black carbon and the cost-effective ways to reduce black carbon emissions that would have beneficial effects on global public health and global warming. The study is in four phases: (1) develops a universal definition of black carbon; (2) identifies global black carbon sources and mitigation reduction technologies; (3) identifies current and possible international funding opportunities to mitigate black carbon emissions; and 4) identifies opportunities for future research and development. The study is due to Congress over the course of a year.

*Subsection (b)—Report*

Subsection (b) requires the Administrator to submit three reports to Congress over the course of a year—

(1) The first report must be delivered to Congress by no later than 180 days after the date of enactment of this Act, describing the results of phases I and II of the study.

(2) The second report must be delivered to Congress by no later than 270 days after the date of enactment of this Act, describing the results of phase III of the study.

(3) The third report must be delivered to Congress by no later than 1 year after the date of enactment of this Act, describing the recommendations developed for phase IV of the study.

*Subsection (c)—Authorization of appropriations*

Subsection (c) authorizes the appropriation of such sums as are necessary to carry out this Act.

LEGISLATIVE HISTORY

S. 849 was introduced by Senators Carper and Inhofe, Boxer, and Kerry. The bill was read twice and referred to the Senate Committee on Environment and Public Works. The Committee met on May 14, 2009, when S. 849 was ordered favorably without amendment reported by voice vote.

HEARINGS

The Committee did not hold hearings on S. 849 during the 111th Congress.

ROLLCALL VOTES

There were no rollcall votes. The Committee on Environment and Public Works met to consider S. 849 on May 14, 2009. A quorum of the Committee being present, S. 849 was reported favorably without amendment by a voice vote.

REGULATORY IMPACT STATEMENT

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee states that there are not expected to be significant costs to private entities under this legislation.

## MANDATES ASSESSMENT

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104–4), the Committee finds that S. 849 would impose no Federal intergovernmental unfunded mandates on State, local or tribal governments.

## CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

In compliance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following estimate, prepared by the Congressional Budget Office:

MAY 19, 2009.

Hon. BARBARA BOXER,  
*Chairman, Committee on Environment and Public Works,*  
*U.S. Senate, Washington, DC.*

DEAR MADAM CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 849, a bill to require the Administrator of the Environmental Protection Agency to conduct a study on black carbon emissions.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Susanne S. Mehlman.

Sincerely,

DOUGLAS W. ELMENDORF.

Enclosure.

*S. 849—A bill to require the Administrator of the Environmental Protection Agency to conduct a study on black carbon emissions*

S. 849 would require the Environmental Protection Agency (EPA) to conduct a study that identifies the major sources of black carbon emissions in the United States, their contributions to global warming, and the most effective technologies for removing or reducing such emissions. EPA would be required to complete the study not later than one year from the bill's enactment. Based on information from EPA, CBO estimates that implementing this legislation would cost about \$2 million over the 2010–2011 period, assuming availability of appropriated funds. Enacting the bill would not affect direct spending or revenues.

S. 849 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act and would not affect the budgets of state, local, or tribal governments.

The CBO staff contact for this estimate is Susanne S. Mehlman. This estimate was approved by Theresa Gullo, Deputy Assistant Director for Budget Analysis.

## CHANGES IN EXISTING LAW

Section 12 of rule XXVI of the Standing Rules of the Senate requires the committee to publish changes in existing law made by the bill as reported. Passage of this bill will make no changes to existing law.