

# Calendar No. 125

111<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION

# S. 849

[Report No. 111-58]

To require the Administrator of the Environmental Protection Agency to conduct a study on black carbon emissions.

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## IN THE SENATE OF THE UNITED STATES

APRIL 22, 2009

Mr. CARPER (for himself, Mr. INHOFE, Mrs. BOXER, Mr. KERRY, Ms. COLLINS, Mr. VOINOVICH, Mr. MERKLEY, and Ms. KLOBUCHAR) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

JULY 22, 2009

Reported by Mrs. BOXER, without amendment

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## A BILL

To require the Administrator of the Environmental Protection Agency to conduct a study on black carbon emissions.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. FINDINGS.**

4 Congress finds that—

5 (1) black carbon—

1 (A) is a component of ambient particulate  
2 matter, the mixture of which has been found to  
3 harm public health by causing serious res-  
4 piratory and cardiovascular effects in developed  
5 and developing countries;

6 (B) plays a role in climate change by—

7 (i) absorbing solar radiation; and

8 (ii) reducing the reflectivity of snow  
9 and ice; and

10 (C) is emitted from incomplete combustion  
11 of fossil fuels, biomass, and biofuels;

12 (2) recent studies have shown that, in the  
13 United States, old diesel engines are a major con-  
14 tributor of black carbon;

15 (3)(A) the United States has made great  
16 progress in reducing black carbon emissions through  
17 regulations on new vehicles and engines and a vol-  
18 untary national diesel retrofit program; but

19 (B) there remain in the United States more  
20 than 11,000,000 diesel engines lacking the latest  
21 diesel emission control technology; and

22 (4) the collection of information relating to, and  
23 research regarding, black carbon would be useful to  
24 identify cost-effective methods of reducing black car-  
25 bon emissions in ways and from sources that would

1        have beneficial effects on the public health and the  
2        climate.

3    **SEC. 2. DEFINITIONS.**

4        In this Act:

5            (1) ADMINISTRATOR.—The term “Adminis-  
6        trator” means the Administrator of the Environ-  
7        mental Protection Agency.

8            (2) BLACK CARBON.—The term “black carbon”  
9        means any light-absorbing graphitic (such as ele-  
10       mental) particle produced by incomplete combustion.

11   **SEC. 3. STUDY OF BLACK CARBON EMISSIONS.**

12        (a) STUDY.—The Administrator, in consultation with  
13       the Secretary of Energy, the Secretary of State, and the  
14       heads of the National Oceanic and Atmospheric Adminis-  
15       tration, the National Aeronautics and Space Administra-  
16       tion, the United States Agency for International Develop-  
17       ment, the National Institutes of Health, the Centers for  
18       Disease Control and Prevention, and other relevant Fed-  
19       eral departments and agencies and representatives of ap-  
20       propriate industry and environmental groups, shall con-  
21       duct a 4-phase study of black carbon emissions, the phases  
22       of which shall be the following:

23            (1) PHASE I—UNIVERSAL DEFINITION.—The  
24        Administrator shall conduct phase I of the study  
25        under this subsection to carry out measures to es-

1        establish for the scientific community standard defini-  
2        tions of the terms—

3                    (A) black carbon; and

4                    (B) organic carbon.

5            (2) PHASE II—SOURCES AND TECHNOLOGIES.—

6        The Administrator shall conduct phase II of the  
7        study under this subsection to summarize the avail-  
8        able scientific and technical information con-  
9        cerning—

10                    (A) the identification of the major sources  
11                    of black carbon emissions in the United States  
12                    and throughout the world;

13                    (B) an estimate of—

14                            (i) the quantity of current and pro-  
15                            jected future black carbon emissions from  
16                            those sources; and

17                            (ii) the net climate effects of the emis-  
18                            sions;

19                    (C) the most recent scientific data relevant  
20                    to the public health- and climate-related im-  
21                    pacts of black carbon emissions and associated  
22                    emissions of organic carbon, nitrogen oxides,  
23                    and sulfur oxides from the sources identified  
24                    under subparagraph (A);

1 (D) the most effective control strategies  
2 for additional domestic and international reduc-  
3 tions in black carbon emissions, taking into  
4 consideration lifecycle analysis, cost-effective-  
5 ness, and the net climate impact of tech-  
6 nologies, operations, and strategies, such as—

7 (i) diesel particulate filters on existing  
8 diesel on- and off-road engines; and

9 (ii) particulate emission reduction  
10 measures for marine vessels;

11 (E) carbon dioxide equivalency factors,  
12 global or regional modeling, or other metrics to  
13 compare the global warming and other climate  
14 effects of black carbon emissions with carbon  
15 dioxide and other greenhouse gas emissions;  
16 and

17 (F) the health benefits associated with ad-  
18 ditional black carbon emission reductions.

19 (3) PHASE III—INTERNATIONAL FUNDING.—The  
20 Administrator shall conduct phase III of the study  
21 under this subsection—

22 (A) to summarize the amount, type, and  
23 direction of all actual and potential financial,  
24 technical, and related assistance provided by

1 the United States to foreign countries to re-  
2 duce, mitigate, or otherwise abate—

3 (i) black carbon emissions; and

4 (ii) any health, environmental, and  
5 economic impacts associated with those  
6 emissions; and

7 (B) to identify opportunities, including ac-  
8 tion under existing authority, to achieve signifi-  
9 cant black carbon emission reductions in for-  
10 eign countries through the provision of tech-  
11 nical assistance or other approaches.

12 (4) PHASE IV—RESEARCH AND DEVELOPMENT  
13 OPPORTUNITIES.—The Administrator conduct phase  
14 IV of the study under this subsection for the pur-  
15 pose of providing to Congress recommendations re-  
16 garding—

17 (A) areas of focus for additional research  
18 for cost-effective technologies, operations, and  
19 strategies with the highest potential to reduce  
20 black carbon emissions and protect public  
21 health in the United States and internationally;  
22 and

23 (B) actions that the Federal Government  
24 could take to encourage or require additional  
25 black carbon emission reductions.

1 (b) REPORTS.—The Administrator shall submit to  
2 Congress—

3 (1) by not later than 180 days after the date  
4 of enactment of this Act, a report describing the re-  
5 sults of phases I and II of the study under para-  
6 graphs (1) and (2) of subsection (a);

7 (2) by not later than 270 days after the date  
8 of enactment of this Act, a report describing the re-  
9 sults of phase III of the study under subsection  
10 (a)(3); and

11 (3) by not later than 1 year after the date of  
12 enactment of this Act, a report describing the rec-  
13 ommendations developed for phase IV of the study  
14 under subsection (a)(4).

15 (c) AUTHORIZATION OF APPROPRIATIONS.—There  
16 are authorized to be appropriated such sums as are nec-  
17 essary to carry out this section.

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