

111TH CONGRESS
1ST SESSION

S. 849

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

IN THE SENATE OF THE UNITED STATES

APRIL 22, 2009

Mr. CARPER (for himself, Mr. INHOFE, Mrs. BOXER, and Mr. KERRY) intro-
duced the following bill; which was read twice and referred to the Com-
mittee on Environment and Public Works

A BILL

To require the Administrator of the Environmental Protec-
tion Agency to conduct a study on black carbon emis-
sions.

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—

6 (A) is a component of ambient particulate
7 matter, the mixture of which has been found to
8 harm public health by causing serious respirato-

1 ry and cardiovascular effects in developed and
2 developing countries;

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

4 (i) absorbing solar radiation; and

5 (ii) reducing the reflectivity of snow
6 and ice; and

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

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

12 (3)(A) the United States has made great prog-
13 ress in reducing black carbon emissions through reg-
14 ulations on new vehicles and engines and a voluntary
15 national diesel retrofit program; but

16 (B) there remain in the United States more
17 than 11,000,000 diesel engines lacking the latest
18 diesel emission control technology; and

19 (4) the collection of information relating to, and
20 research regarding, black carbon would be useful to
21 identify cost-effective methods of reducing black car-
22 bon emissions in ways and from sources that would
23 have beneficial effects on the public health and the
24 climate.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

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

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

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

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

21 (1) PHASE I—UNIVERSAL DEFINITION.—The
22 Administrator shall conduct phase I of the study
23 under this subsection to carry out measures to es-
24 tablish for the scientific community standard defini-
25 tions of the terms—

26 (A) black carbon; and

1 (B) organic carbon.

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

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

7 (A) the identification of the major sources
8 of black carbon emissions in the United States
9 and throughout the world;

10 (B) an estimate of—

11 (i) the quantity of current and pro-
12 jected future black carbon emissions from
13 those sources; and

14 (ii) the net climate effects of the emis-
15 sions;

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

22 (D) the most effective control strategies
23 for additional domestic and international reduc-
24 tions in black carbon emissions, taking into
25 consideration lifecycle analysis, cost-effective-

ness, and the net climate impact of technologies, operations, and strategies, such as—

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

(ii) particulate emission reduction measures for marine vessels;

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

(F) the health benefits associated with additional black carbon emission reductions.

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

(A) to summarize the amount, type, and direction of all actual and potential financial, technical, and related assistance provided by the United States to foreign countries to reduce, mitigate, or otherwise abate—

(i) black carbon emissions; and

1 (ii) any health, environmental, and
2 economic impacts associated with those
3 emissions; and

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

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

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

20 (B) actions that the Federal Government
21 could take to encourage or require additional
22 black carbon emission reductions.

23 (b) REPORTS.—The Administrator shall submit to
24 Congress—

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

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

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

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

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