

112TH CONGRESS
1ST SESSION

H. R. 51

To reduce the heat island effect and associated ground level ozone pollution from Federal facilities.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 5, 2011

Mr. CONNOLLY of Virginia introduced the following bill; which was referred to the Committee on Oversight and Government Reform

A BILL

To reduce the heat island effect and associated ground level ozone pollution from Federal facilities.

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. SHORT TITLE.**

4 This Act may be cited as the “Heat Island and Smog
5 Reduction Act of 2011”.

6 **SEC. 2. FINDINGS.**

7 The Congress finds the following:

8 (1) Parking lots, dark-colored rooftops, and
9 lack of tree canopy in urban areas causes the “heat
10 island” effect, wherein urban areas are significantly

1 hotter than surrounding rural areas due to solar
2 heat being collected by components of the built envi-
3 ronment.

4 (2) According to the EPA, this heat island ef-
5 fect can raise afternoon-to-evening temperatures of
6 urban areas by up to 22 degrees Fahrenheit com-
7 pared to surrounding rural areas.

8 (3) Higher air temperatures in urban areas lead
9 to higher levels of ground level ozone pollution, com-
10 monly known as smog.

11 (4) In hot weather, each additional degree Cel-
12 sius in heat causes approximately a 5-percent in-
13 crease in smog pollution, according to Lawrence
14 Berkley National Laboratory studies.

15 (5) Negative health impacts of smog include in-
16 creased incidence of asthma, throat irritation, scar-
17 ring of lung tissue, emphysema, and premature
18 death.

19 (6) The urban heat island effect increases elec-
20 tricity demand associated with air-conditioning; con-
21 versely, heat island mitigation through increased
22 tree canopy can reduce air-conditioning costs by up
23 to 50 percent, creating potential cost savings
24 through lower Federal energy bills.

1 (7) According to the Lawrence Berkley Na-
2 tional Laboratory, the urban heat island is respon-
3 sible for 10 to 15 percent of peak electric demand,
4 so mitigating the urban heat island effect will im-
5 prove the reliability of the power grid by reducing
6 peak demand.

7 (8) Urban heat island temperatures can be low-
8 ered by increasing tree canopy and by using paving
9 and roofing materials with higher solar reflectivity.

10 (9) Many metropolitan regions that include sub-
11 stantial Federal property, including the National
12 Capital Region, fail to meet air quality standards for
13 ozone.

14 **SEC. 3. HEAT ISLAND REDUCTION PLANS FOR FEDERAL**
15 **PROPERTIES AND FACILITIES.**

16 (a) IN GENERAL.—Not later than April 1, 2012, each
17 Federal department or agency shall develop a heat island
18 reduction plan for all Federal property and facilities that
19 are—

20 (1) under the possession or control of such de-
21 partment or agency; and

22 (2) located in an area that is designated under
23 section 107(d) of the Clean Air Act (42 U.S.C.
24 7407(d)) as being in nonattainment with respect to
25 the national ambient air quality standards for ozone.

1 (b) CONTENTS.—Each heat island reduction plan
2 under this section shall include measures—

3 (1) to maximize tree cover on Federal property;

4 and

5 (2) to increase solar reflectivity through tech-
6 niques such as using roofs with high solar reflec-
7 tivity (cool roofs), vegetated roofs, and paving mate-
8 rials with higher solar reflectivity.

9 (c) ANNUAL REPORT.—Not later than one year after
10 the date of the enactment of this Act, and annually there-
11 after, the Administrator of the General Services Adminis-
12 tration shall submit to the Committee on Oversight and
13 Government Reform of the House of Representatives and
14 the Committee on Homeland Security and Governmental
15 Affairs of the Senate a report assessing the progress of
16 Federal departments and agencies in developing and im-
17 plementing heat island reduction plans under this section.

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