II

119TH CONGRESS
2D SESSION

S. 4571

To require the Environmental Protection Agency to establish a tropospheric ozone research program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 19, 2026

Mr. WHITEHOUSE (for himself and Mr. SCHATZ) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

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A BILL

To require the Environmental Protection Agency to establish a tropospheric ozone research program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Tropospheric Ozone Research Act of 2026''.

SEC. 2. TROPOSPHERIC OZONE RESEARCH PROGRAM.

(a) DEFINITIONS.—In this section:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of the Environmental Protection Agency.

(2) PROGRAM.—The term ''program'' means the grant program established under subsection (b).

(3) TROPOSPHERIC OZONE.—The term ''tropospheric ozone'' means ozone found within the Earth's troposphere.

(4) TROPOSPHERIC OZONE PRECURSOR.—The term ''tropospheric ozone precursor'' means any of methane, nitrogen oxides, carbon monoxide, nonmethane volatile organic compounds, and other compounds that react to form tropospheric ozone.

(b) ESTABLISHMENT.—Not later than 90 days after the date on which amounts are appropriated to carry out this Act, the Administrator shall establish a competitive grant program to award grants to eligible entities to carry out research with respect to the climate impacts of tropospheric ozone.

(c) RESEARCH TOPICS.—

(1) IN GENERAL.—The research carried out using grants under the program shall include research with respect to—

(A) improving understanding of the impact of tropospheric ozone concentrations and mitigation on global temperatures, including—

(i) the role of regional or localized tropospheric ozone concentrations;

(ii) the role of emission or mitigation of specific tropospheric ozone precursors; and

(iii) interactions with other atmospheric pollutants (such as particulate matter);

(B) improving understanding of the impact of tropospheric ozone concentrations and mitigation on regional, localized, and seasonal temperatures and heat stress, including—

(i) the role of regional or localized tropospheric ozone concentrations;

(ii) the role of emission or mitigation of specific tropospheric ozone precursors; and

(iii) interactions with other atmospheric pollutants (such as particulate matter);

(C) improving understanding of natural interactions affecting tropospheric ozone con-

centrations and mitigation, such as non-anthropogenic tropospheric ozone precursor emissions, stratospheric ozone, and lightning;

(D) improving understanding of crop loss impacts from elevated levels of tropospheric ozone, including regional and local impacts and potential measures to reduce crop loss impacts;

(E) improving understanding of forest and ecosystem productivity impacts from elevated levels of tropospheric ozone, including regional and local impacts;

(F) developing or updating existing regional and global climate models or other relevant models to better incorporate the radiative forcing and temperature impacts of tropospheric ozone and the interactions between tropospheric ozone and other greenhouse gases and air pollutants; and

(G) subject to paragraph (3), strengthening and expanding tropospheric ozone and tropospheric ozone precursor monitoring and observational infrastructure, including—

(i) enhancement of ground-based monitoring networks (with increased coverage

in rural, agricultural, and other understudied regions);

(ii) integration of surface observations with satellite remote sensing and chemical transport model outputs;

(iii) expanded vertical profiling through ozonesondes and aircraft measurements, particularly in understudied regions; and

(iv) development of standardized data assimilation frameworks to support climate and air quality monitoring.

(2) CURRENT AND FUTURE MODELING.—

(A) IN GENERAL.—In seeking to carry out the research described in subparagraphs (A) through (F) of paragraph (1), the Administrator shall seek to include research that—

(i) assesses tropospheric ozone impacts and interactions at concentrations present on the date the program is established; and

(ii) models future tropospheric ozone concentrations, impacts, and interactions.

(B) FUTURE TROPOSPHERIC OZONE.—In seeking to carry out research with respect to

the future tropospheric ozone concentrations, impacts, and interactions described in subparagraph (A)(ii), the Administrator shall seek to carry out research that—

(i) models a range of scenarios, including scenarios that assume that trends in emissions of tropospheric ozone precursors, other atmospheric pollutants, and greenhouse gases in effect on the date on which the program is established continue and scenarios that assume reductions in such emissions; and

(ii) includes an assessment of how climate impacts (such as increased wildfires, increased temperatures, altered atmospheric circulation patterns, and changes in humidity, stagnation frequency, and lightning frequency) or changes in other atmospheric pollutants across the modeled range of scenarios affect tropospheric ozone concentrations, and related impacts.

(3) PUBLIC AVAILABILITY OF DATA.—The Administrator shall ensure that any data collected pursuant to paragraph (1)(G) is made publicly available.

(d) ELIGIBLE ENTITIES.—An entity eligible to receive a grant under the program is—

(1) an institution of higher education;

(2) a National Laboratory (as defined in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801)); or

(3) any other nonprofit research entity with demonstrated expertise in atmospheric chemistry, weather modeling, climate modeling, or air quality monitoring.

(e) APPLICATIONS.—An eligible entity seeking a grant under the program shall submit to the Administrator an application at such time, in such manner, and containing such information as the Administrator may require.

(f) TIMING.—The Administrator shall select recipients of grants under the program not later than 180 days after the date on which the program is established.

(g) COLLABORATION.—In carrying out the program, the Administrator shall collaborate with the international scientific community on science, research, and data-sharing with respect to the research topics described in subsection (c)(1), including through multilateral forums.

(h) REPORTS.—

(1) REPORTS TO ADMINISTRATOR.—

(A) IN GENERAL.—The recipient of a grant under the program shall annually submit to the Administrator a report describing the findings of the recipient with respect to the research for which the grant was provided.

(B) PUBLIC AVAILABILITY.—A report submitted under subparagraph (A) shall be made publicly available.

(2) EPA REPORT.—Not later than 4 years after the date on which the program is established, the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives and make publicly available a report that describes the findings and recommendations of the Administrator with respect to the program and tropospheric ozone, which shall include—

(A) a description of the contributions of tropospheric ozone at concentrations in effect on the date the report is submitted to—

(i) global temperature rise;

(ii) regional, localized, and seasonal warming and heat stress;

(iii) crop losses and forest and ecosystem productivity impacts; and

(iv) health effects;

(B) the forecasted future contributions, under a range of scenarios, including scenarios that assume trends in emissions of tropospheric ozone precursors, other atmospheric pollutants, and greenhouses gases in effect on the date the report is submitted continue and scenarios that assume reductions in such emissions, of tropospheric ozone to—

(i) global temperature rise;

(ii) regional, localized, and seasonal warming and heat stress;

(iii) crop losses and forest and ecosystem productivity impacts; and

(iv) health effects;

(C) a description of the national or, as appropriate, regional, local, or seasonal options to mitigate specific tropospheric ozone precursors—

(i) to maximize global and localized warming reductions;

(ii) to minimize adverse impacts to health, forests, or ecosystems; and

(iii) to minimize crop loss impacts;

(D) a high-level assessment of the costs and benefits of tropospheric ozone precursor mitigation options identified under subparagraph (C); and

(E) policy recommendations for—

(i) mitigation strategies for specific tropospheric precursors to minimize the negative impacts of tropospheric ozone, based on the findings described subparagraphs (C) and (D);

(ii) improvements in data collection and reporting for tropospheric ozone and tropospheric ozone precursors; and

(iii) further research needs.

(i) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There are authorized to be appropriated to the Administrator to carry out the program—

(A) $10,500,000 for each of fiscal years 2027 through 2029; and

(B) $1,000,000 for fiscal year 2030.

(2) REQUIREMENTS.—Of the amounts made available under paragraph (1)—

(A) with respect to the amounts made available under subparagraph (A) of that paragraph—

(i) $10,000,000 shall be used to make grants under the program; and

(ii) $500,000 shall be used to implement and oversee the program; and

(B) the amounts made available under subparagraph (B) of that paragraph shall be used to prepare the report required under subsection (h)(2).

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