

116TH CONGRESS
2D SESSION

H. R. 7228

To provide for a coordinated Federal program to accelerate plastics waste reduction and support recycling research and development for the economic and national security of the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JUNE 15, 2020

Ms. STEVENS (for herself, Mr. GONZALEZ of Ohio, Ms. JOHNSON of Texas, Mr. LUCAS, and Mr. ROONEY of Florida) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To provide for a coordinated Federal program to accelerate plastics waste reduction and support recycling research and development for the economic and national security of the United States, and for other purposes.

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 “Plastic Waste Reduc-

5 tion and Recycling Act”.

6 **SEC. 2. FINDINGS.**

7 Congress makes the following findings:

1 (1) It is estimated that global production of
2 plastic has increased from 2,000,000 tons of plastic
3 per year in 1950 to 400,000,000 tons per year
4 today, and of the 8.3 billion metric tons of plastic
5 ever produced globally, 6.3 billion metric tons has
6 become plastic waste.

7 (2) The United States has failed to invest in
8 the development of domestic recycling markets, tech-
9 nology and materials to make the recycling process
10 more available and efficient, and as a result, the
11 United States recycles only 9 percent of its plastic
12 waste.

13 (3) For more than 2 decades, the United States
14 and other developed nations sold and exported
15 106,000,000 metric tons of recyclable plastics to
16 China, but in 2018 China issued a ban on contami-
17 nated United States plastics.

18 (4) Following the 2018 China ban, more and
19 more United States communities are sending recy-
20 clable items to landfills or incinerators.

21 (5) As recycling programs have moved toward
22 single-stream curbside recycling, more recyclable
23 items are mixed with non-recyclable items, resulting
24 in fewer potentially recyclable items actually being
25 recycled and turned into new, valuable products.

1 (6) The resin identification coding system in
2 use today has not been substantially updated since
3 its creation in 1988.

4 (7) Characterizing the type and recyclability of
5 different types of plastics in use today requires up-
6 dated standards.

7 (8) Separating and processing the many dif-
8 ferent types of plastics as well as the heterogenous
9 materials containing multiple layers of different
10 plastic types commonly in use today will require new
11 sorting and recycling technologies.

12 (9) There are currently limited private or public
13 investments in advanced recycling technologies and
14 other technologies to reduce the amount and impact
15 of plastic waste.

16 (10) The Federal Government can play an im-
17 portant role in supporting research and development
18 and facilitating standards, tools, and technologies
19 needed across the different stages of the plastics
20 production and recycling ecosystem.

21 **SEC. 3. DEFINITIONS.**

22 In this Act:

23 (1) COMMITTEE.—The term “Committee”
24 means the Interagency Committee established or
25 designated under section 5.

1 (2) DIRECTOR.—The term “Director” means
2 the Director of the Office of Science and Technology
3 Policy.

4 (3) PARTICIPATING AGENCIES.—The term
5 “participating agencies” means the agencies under
6 section 5(c).

7 (4) PROGRAM.—The term “Program” means
8 the Plastic Waste Reduction and Recycling Program
9 established under section 4.

10 (5) MARINE DEBRIS.—The term “marine de-
11 bris” has the meaning provided in the Marine De-
12 bris Act (33 U.S.C. 1956).

13 **SEC. 4. PLASTIC WASTE REDUCTION AND RECYCLING PRO-**
14 **GRAM.**

15 (a) ESTABLISHMENT; PURPOSES.—The Director,
16 acting through the Committee and each of the partici-
17 pating agencies, shall establish and implement a program
18 to be known as the “Plastic Waste Reduction and Recy-
19 cling Program”. The purposes of the Program shall be
20 to—

21 (1) improve the global competitiveness of the
22 United States plastics recycling industry;

23 (2) ensure United States leadership in plastic
24 waste reduction and recycling research and innova-
25 tion;

1 (3) support United States leadership in the de-
2 velopment of national and international standards
3 for advanced plastics and plastic recycling;

4 (4) mitigate any harmful effects of plastic waste
5 on the environment.

6 (b) PROGRAM ACTIVITIES.—In carrying out the Pro-
7 gram, the Director, acting through the Committee and
8 each of the participating agencies, shall carry out activities
9 that include the following:

10 (1) Supporting research, development, and dem-
11 onstration of advanced plastics technologies opti-
12 mized for recyclability, plastics recycling tech-
13 nologies, bio-based plastics, biodegradable plastics,
14 remediation, including bioremediation of plastic
15 waste, recyclability and remediation of plastic-based
16 textiles, and environmental impacts of plastic waste.

17 (2) Supporting and facilitating public-private
18 partnerships to leverage knowledge and resources to
19 accelerate research, development, and demonstration
20 in advanced plastics, plastics recycling, plastic waste
21 remediation and other areas consistent with the pur-
22 poses of this Act.

23 (3) Interagency planning and coordination of
24 Federal research and development of plastic waste

1 reduction and recycling technologies and plastic
2 waste remediation.

3 (4) Promoting research collaboration with inter-
4 national partners, as appropriate.

5 **SEC. 5. COORDINATION BY INTERAGENCY COMMITTEE.**

6 (a) INTERAGENCY COMMITTEE.—Not later than 180
7 days after the date of enactment of this Act, the Director,
8 acting through the National Science and Technology
9 Council, shall establish or designate an Interagency Com-
10 mittee to coordinate Federal programs and activities in
11 support of plastic waste reduction and recycling and plas-
12 tic waste remediation research and development under the
13 Program.

14 (b) CO-CHAIRS.—The Committee shall be co-chaired
15 by the Director of the Office of Science and Technology
16 Policy or designee and a representative from an agency
17 participating in the Committee, as selected by the Director
18 of the Office of Science and Technology Policy.

19 (c) AGENCY PARTICIPATION.—The Committee shall
20 include representatives from—

- 21 (1) the National Institute of Standards and
22 Technology;
- 23 (2) the National Science Foundation;
- 24 (3) the Department of Energy;
- 25 (4) the Environmental Protection Agency;

1 (5) the Department of Transportation;

2 (6) the National Oceanic and Atmospheric Ad-
3 ministration;

4 (7) the Department of Agriculture; and

5 (8) any other Federal agency as considered ap-
6 propriate by the Director of the Office of Science
7 and Technology Policy.

8 (d) RESPONSIBILITIES.—The Committee shall—

9 (1) provide for interagency coordination of Fed-
10 eral plastics reduction and recycling and plastic
11 waste remediation research, development, and dem-
12 onstration, standards development, and education
13 and training activities and programs of Federal de-
14 partments and agencies undertaken pursuant to the
15 Program;

16 (2) develop definitions for the following terms
17 to guide the activities of the Program—

18 (A) recycle;

19 (B) recyclability;

20 (C) remediation;

21 (D) advanced recycling;

22 (E) advanced plastics;

23 (F) biobased plastics;

24 (G) biodegradable plastics;

25 (H) microplastic;

1 (I) nanoplastic; and

2 (J) pyroplastic;

3 (3) develop and update every 3 years a strategic
4 plan, to be made publicly available, for plastic waste
5 reduction and recycling and plastic waste remedi-
6 ation that—

7 (A) establishes goals, priorities, and
8 metrics for guiding and evaluating the activities
9 of the Program; and

10 (B) describes—

11 (i) how the Program will determine
12 and prioritize areas of plastic waste reduc-
13 tion and recycling and plastic waste reme-
14 diation for Federal research investments;

15 (ii) the Program's support for long-
16 term funding for interdisciplinary plastic
17 waste reduction and recycling research, de-
18 velopment, demonstration, standards devel-
19 opment, education, and public outreach ac-
20 tivities;

21 (iii) how Federal agencies partici-
22 pating in the Program will collaborate with
23 industry and with local governments, as
24 appropriate; and

1 (iv) how the program will help move
2 the results of research out of the labora-
3 tory and into commercial or municipal ap-
4 plication; and

5 (C) with respect to the previous 3 years,
6 provides a summary of—

7 (i) federally funded plastic waste re-
8 duction and recycling and plastic waste re-
9 mediation research, development, and dem-
10 onstration;

11 (ii) the adoption of advanced plastics
12 reduction and recycling technologies by
13 Federal, State, and local governments and
14 private entities; and

15 (iii) other related activities for the
16 previous 3 years; and

17 (4) consider input from universities, State and
18 local governments, scientific societies, and public,
19 private and nonprofit plastic recycling manufactur-
20 ers and organizations in the development of the
21 goals, priorities and metrics required under para-
22 graph (3)(A).

23 (e) TERMINATION.—The Interagency Committee
24 shall terminate 10 years after the date on which the Com-
25 mittee is established under subsection (a).

1 **SEC. 6. NATIONAL INSTITUTE OF STANDARDS AND TECH-**
2 **NOLOGY.**

3 As part of the Program, the Director of National In-
4 stitute of Standards and Technology shall—

5 (1) establish a science program for character-
6 ization of plastic properties before, during, and after
7 recycling and manufacturing, development of classi-
8 fication systems, and creation of new data tools,
9 techniques, and processes to advance plastics engi-
10 neering and post-consumer plastic recycling and
11 manufacturing;

12 (2) develop innovations for effective and effi-
13 cient measures for processing plastics, including
14 films and textiles, collected for recycling, while con-
15 sidering existing waste streams and future new ma-
16 terials;

17 (3) provide the metrology basis for standards
18 development for plastic sorting infrastructure, proc-
19 essing technologies, classification systems, including
20 for biobased plastics, and recycling by design;

21 (4) develop a clearinghouse to collect and sup-
22 port dissemination of tools, guidelines and standards
23 developed under this section;

24 (5) consult with appropriate stakeholder groups
25 to promote adoption and implementation of such
26 guidelines and standards, including diverse manufac-

1 turing and industry groups, such as packaging, in-
2 cluding food packaging, agriculture, transportation,
3 textile and fashion;

4 (6) support plastics recycling research collabo-
5 ration and coordinate standards development, as ap-
6 propriate, with other agencies, State and local gov-
7 ernments, nonprofit organizations, academia, private
8 sector, and international partners; and

9 (7) establish a program for measurements,
10 methods and standards to assess the environmental
11 impacts of plastics waste, including marine debris,
12 and plastic particles and fibers.

13 **SEC. 7. NATIONAL SCIENCE FOUNDATION.**

14 As part of the Program, the National Science Foun-
15 dation shall—

16 (1) support multidisciplinary basic research on
17 advanced plastics that are designed for recyclability
18 or biodegradation, on plastic waste remediation, on
19 advanced recycling technologies for different plastics,
20 and on composting and compostable plastics, and on
21 plastic waste valorization;

22 (2) support multidisciplinary research on the
23 environmental and biological effects of plastic waste,
24 and particularly the formation, transport and bio-

1 accumulation of nano- and micro-plastics relevant to
2 plastics recycling and plastic waste remediation;

3 (3) support, as appropriate, development of
4 interdisciplinary undergraduate and graduate cur-
5 riculum and instructional materials relevant to plas-
6 tics recycling and plastic waste remediation;

7 (4) support research experiences for under-
8 graduate students relevant to plastics recycling and
9 plastic waste remediation; and

10 (5) support plastics recycling research collabo-
11 rations, as appropriate, with other agencies, State
12 and local governments, nonprofit organizations, aca-
13 demia, private sector, and international partners.

14 **SEC. 8. DEPARTMENT OF ENERGY.**

15 As part of the Program, the Secretary of Energy
16 shall—

17 (1) support integrated research, development,
18 demonstration, and commercial application for—

19 (A) chemical and bio-inspired plastic recy-
20 cling, including research on the potential envi-
21 ronmental impact of chemical recycling tech-
22 nologies;

23 (B) advanced plastic synthesis;

24 (C) plastic waste remediation;

25 (D) recyclability-by-design;

1 (E) systems-level strategies for improved
2 plastics separation and recovery; and

3 (F) upcycling of recycled plastics into new
4 high-value plastics, including for food-grade
5 packaging and advanced manufacturing applica-
6 tions;

7 (2) coordinate research efforts funded through
8 existing programs across the Department of Energy,
9 including the National Laboratories and relevant
10 Manufacturing USA Institutes under section 34 of
11 the National Institute of Standards and Technology
12 Act (15 U.S.C. 278s); and

13 (3) support plastics recycling research collabo-
14 rations, as appropriate, with other agencies, State
15 and local governments, nonprofit organizations, aca-
16 demia, private sector, and international partners.

17 **SEC. 9. ENVIRONMENTAL PROTECTION AGENCY.**

18 As part of the Program, the Administrator of the En-
19 vironmental Protection Agency shall—

20 (1) conduct and support research development
21 and demonstration of innovative plastic waste man-
22 agement solutions, including reduction, reuse, recy-
23 cling, recovery, composting infrastructure for bio-
24 based plastics, and prevention of plastics, including

1 microplastics, nanoplastics, and pyroplastics, from
2 entering the air, soil, oceans, and waterways;

3 (2) support and conduct research and analysis
4 on the public health impacts of airborne and water-
5 borne microplastics, nanoplastics, and pyroplastics,
6 including research on routes of exposure, estimates
7 of exposure in different populations, and toxicity as-
8 sessments on animal and aquatic health, including
9 the food chain; and

10 (3) support plastics recycling research collabo-
11 rations, as appropriate, with other agencies, State
12 and local governments, nonprofit organizations, aca-
13 demia, private sector, and international partners.

14 **SEC. 10. NATIONAL OCEANIC AND ATMOSPHERIC ADMINIS-**
15 **TRATION.**

16 As part of the Program, the Administrator of the Na-
17 tional Oceanic and Atmospheric Administration shall—

18 (1) conduct and support research, data collec-
19 tion, and analysis of plastic marine debris and ocean
20 plastic pollution generation and sources, including
21 microplastics, nanoplastics, and pyroplastics;

22 (2) support research and analysis on the health
23 impacts of oceanic microplastics on marine animal
24 health, including the food chain; and

1 (3) support ocean plastic research collabora-
2 tions, as appropriate, with other agencies, State and
3 local governments, nonprofit organizations, aca-
4 demia, private sector, and international partners.

5 **SEC. 11. COMPTROLLER GENERAL REPORT.**

6 Not later than 2 years after the strategic plan re-
7 quired by section 5(d)(3) is first issued, the Comptroller
8 General shall submit a report to Congress that assesses
9 the implementation of the strategic plan by the Committee
10 and participating agencies.

11 **SEC. 12. AUTHORIZATIONS.**

12 There is authorized to be appropriated to carry out
13 activities under this Act—

14 (1) to the National Institute of Standards and
15 Technology—

16 (A) \$10,000,000 for fiscal year 2021;
17 (B) \$10,650,000 for fiscal year 2022;
18 (C) \$11,342,000 for fiscal year 2023;
19 (D) \$12,079,000 for fiscal year 2024; and
20 (E) \$12,865,000 for fiscal year 2025;

21 (2) to the National Science Foundation—

22 (A) \$30,000,000 for fiscal year 2021;
23 (B) \$31,950,000 for fiscal year 2022;
24 (C) \$34,027,000 for fiscal year 2023;
25 (D) \$36,328,000 for fiscal year 2024; and

1 (E) \$38,594,000 for fiscal year 2025;

2 (3) to the Department of Energy—

3 (A) \$25,000,000 for fiscal year 2021;

4 (B) \$26,625,000 for fiscal year 2022;

5 (C) \$28,356,000 for fiscal year 2023;

6 (D) \$30,199,000 for fiscal year 2024; and

7 (E) \$32,162,000 for fiscal year 2025;

8 (4) to the Environmental Protection Agency—

9 (A) \$10,000,000 for fiscal year 2021;

10 (B) \$10,650,000 for fiscal year 2022;

11 (C) \$11,342,000 for fiscal year 2023;

12 (D) \$12,079,000 for fiscal year 2024; and

13 (E) \$12,865,000 for fiscal year 2025; and

14 (5) to the National Oceanic and Atmospheric
15 Administration—

16 (A) \$10,000,000 for fiscal year 2021;

17 (B) \$10,650,000 for fiscal year 2022;

18 (C) \$11,342,000 for fiscal year 2023;

19 (D) \$12,079,000 for fiscal year 2024; and

20 (E) \$12,865,000 for fiscal year 2025.

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