

116TH CONGRESS
2D SESSION

H. R. 8297

To direct the Secretary of Energy to establish and support advanced recycling research and development programs, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

SEPTEMBER 17, 2020

Mr. GONZALEZ of Ohio (for himself, Mr. LUCAS, and Mr. MARSHALL) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To direct the Secretary of Energy to establish and support advanced recycling research and development programs, 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; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Advanced Recycling Research and Development Act of
6 2020”.

7 (b) TABLE OF CONTENTS.—The table of contents for
8 this Act is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

Sec. 3. Optimized plastics recycling research and development program.

Sec. 4. Lithium-ion battery recycling research and development program.

1 **SEC. 2. DEFINITIONS.**

2 In this Act:

3 (1) DEPARTMENT.—The term “Department”
4 means the Department of Energy.

5 (2) NATIONAL LABORATORY.—The term “Na-
6 tional Laboratory” has the meaning given that term
7 in section 2 of the Energy Policy Act of 2005 (42
8 U.S.C. 15801).

9 (3) SECRETARY.—The term “Secretary” means
10 the Secretary of Energy.

11 (4) RECYCLABLE PLASTIC.—The term “recyclable
12 plastic” means plastic that is designed to be
13 readily, economically, and efficiently recyclable or
14 otherwise recoverable for beneficial use.

15 (5) CRITICAL MATERIAL.—The term “critical
16 material” means material that serves an essential
17 function in the manufacturing of a product and has
18 a high risk of a supply disruption, such that a short-
19 age of such material would have significant con-
20 sequences for the economic or national security of
21 the United States.

22 (6) COMPOSITE.—The term “composite” means
23 plastic reinforced with fiber or particulate secondary

1 material like bio-derived fibers, carbon fibers, glass
2 or any other solid material.

3 **SEC. 3. OPTIMIZED PLASTICS RECYCLING RESEARCH AND**
4 **DEVELOPMENT PROGRAM.**

5 (a) IN GENERAL.—The Secretary shall carry out a
6 research, development, and demonstration program to ac-
7 celerate innovation in energy-efficient recyclable plastics,
8 next-generation plastics, and composites recycling and
9 upcycling strategies and technologies, in order to increase
10 the economic value of plastics supply streams and to re-
11 duce the environmental impact of global plastics consump-
12 tion.

13 (b) EXECUTION.—In carrying out the program under
14 this section, the Secretary shall—

15 (1) develop novel collection and sorting tech-
16 nologies to prevent plastics and composites, includ-
17 ing waterborne plastics, from entering landfills and
18 the marine environment;

19 (2) develop biological, chemical, and hybrid bio-
20 chemical technologies and methods for deconstruct-
21 ing plastic and composite waste, including environ-
22 mental waste, into useful chemical and material
23 streams;

1 (3) develop technologies to upcycle waste, in-
2 cluding chemical, material, and gaseous streams,
3 into higher-value products;

4 (4) develop new economically recyclable-by-de-
5 sign plastics and composites that can be scaled for
6 domestic manufacturability and recovery;

7 (5) develop new energy-efficient advanced man-
8 ufacturing techniques for reclaimed plastics and
9 composites; and

10 (6) develop new data collection methods and
11 practices in collaboration with relevant Federal
12 agencies.

13 (c) LEVERAGING.—In carrying out the program
14 under this section, the Secretary shall leverage resources
15 and expertise from—

16 (1) the Basic Energy Sciences Program and the
17 Biological and Environmental Research Program of
18 the Office of Science; and

19 (2) the Office of Energy Efficiency and Renew-
20 able Energy.

21 (d) STANDARD OF REVIEW.—The Secretary shall pe-
22 riodically review activities carried out under the program
23 under this section to determine the achievement of tech-
24 nical milestones as determined by the Secretary.

25 (e) FUNDING.—

1 (1) IN GENERAL.—From within funds author-
2 ized to be appropriated—

3 (A) to the Department’s Office of Science,
4 there shall be made available to the Secretary
5 to carry out the program under this section
6 \$15,000,000 for each of fiscal years 2021
7 through 2025; and

8 (B) to the Department’s Office of Energy
9 Efficiency and Renewable Energy, there shall
10 be made available to the Secretary to carry out
11 the program under this section \$25,000,000 for
12 each of fiscal years 2021 through 2025.

13 (2) PROHIBITION.—In carrying out the pro-
14 gram under this section, the Secretary shall not use
15 funds made available under paragraph (1) for com-
16 mercial application of energy technology.

17 **SEC. 4. LITHIUM-ION BATTERY RECYCLING RESEARCH AND**
18 **DEVELOPMENT PROGRAM.**

19 (a) IN GENERAL.—The Secretary shall carry out a
20 research, development, and demonstration program to
21 support the development of—

22 (1) advanced materials for batteries with con-
23 siderations given to resource availability and envi-
24 ronmentally benign disposal and recycling; and

1 (2) innovative technologies to reclaim and recy-
2 cle critical materials from advanced and lithium-ion
3 based battery technologies used in consumer elec-
4 tronics, defense, stationary storage, and transpor-
5 tation applications.

6 (b) EXECUTION.—In carrying out the program under
7 this section, the Secretary shall—

8 (1) promote the discovery of new domestically
9 sourced raw materials for batteries that can degrade
10 without causing damage to the environment;

11 (2) develop innovative and cost-effective tech-
12 nologies and processes for the collection, storage,
13 and transportation of discarded lithium-ion batteries
14 that use domestic mining resources and increase
15 availability of domestically sourced raw materials for
16 batteries; and

17 (3) develop cost-effective recycling processes to
18 recover critical materials from discarded lithium-ion
19 batteries and enable their reintroduction in new lith-
20 ium-ion cell technologies and for use in other rel-
21 evant industries.

22 (c) LEVERAGING.—In carrying out the program
23 under this section, the Secretary shall leverage resources
24 and expertise from—

1 (1) the Basic Energy Sciences Program of the
2 Office of Science;

3 (2) the Office of Energy Efficiency and Renew-
4 able Energy, including current lithium-ion battery
5 recycling activities supported by the Vehicle Tech-
6 nologies Office within the Office of Energy Effi-
7 ciency and Renewable Energy; and

8 (3) the Office of Technology Transitions.

9 (d) STANDARD OF REVIEW.—The Secretary shall pe-
10 riodically review activities carried out under the program
11 under this section to determine the achievement of tech-
12 nical milestones as determined by the Secretary.

13 (e) FUNDING.—

14 (1) IN GENERAL.—From within funds author-
15 ized to be appropriated—

16 (A) to the Department’s Office of Science,
17 there shall be made available to the Secretary
18 to carry out the activities under this section
19 \$10,000,000 for each of fiscal years 2021
20 through 2025; and

21 (B) to the Department’s Office of Energy
22 Efficiency and Renewable Energy, there shall
23 be made available to the Secretary to carry out
24 the activities under this section \$10,000,000 for
25 each of fiscal years 2021 through 2025.

1 (2) PROHIBITION.—In carrying out the pro-
2 gram under this section, the Secretary shall not use
3 funds made available under paragraph (1) for com-
4 mercial application of energy technology.

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