

117TH CONGRESS
1ST SESSION

S. 1418

To provide for a coordinated Federal research initiative to ensure continued United States leadership in engineering biology.

IN THE SENATE OF THE UNITED STATES

APRIL 28, 2021

Mr. MARKEY (for himself, Mrs. GILLIBRAND, Mr. RUBIO, and Mrs. CAPITO) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To provide for a coordinated Federal research initiative to ensure continued United States leadership in engineering biology.

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 “Bioeconomy Research
5 and Development Act of 2021”.

6 **SEC. 2. FINDINGS.**

7 The Congress makes the following findings:

8 (1) Cellular and molecular processes may be
9 used, mimicked, or redesigned to develop new prod-

1 ucts, processes, and systems that improve societal
2 well-being, strengthen national security, and con-
3 tribute to the economy.

4 (2) Engineering biology relies on a workforce
5 with a diverse and unique set of skills combining the
6 biological, physical, chemical, and information
7 sciences and engineering.

8 (3) Long-term research and development is nec-
9 essary to create breakthroughs in engineering biol-
10 ogy. Such research and development requires govern-
11 ment investment as many of the benefits are too dis-
12 tant or uncertain for industry to support alone.

13 (4) Research is necessary to inform evidence-
14 based governance of engineering biology and to sup-
15 port the growth of the engineering biology industry.

16 (5) The Federal Government has an obligation
17 to ensure that ethical, legal, environmental, safety,
18 security, and societal implications of its science and
19 technology research and investment follows policies
20 of responsible innovation and fosters public trans-
21 parency.

22 (6) The Federal Government can play an im-
23 portant role by facilitating the development of tools
24 and technologies to further advance engineering biol-
25 ogy, including user facilities, by facilitating public-

1 private partnerships, by supporting risk research,
2 and by facilitating the commercial application in the
3 United States of research funded by the Federal
4 Government.

5 (7) The United States led the development of
6 the science and engineering techniques that created
7 the field of engineering biology, but due to increas-
8 ing international competition, the United States is
9 at risk of losing its competitive advantage if it does
10 not strategically invest the necessary resources.

11 (8) A National Engineering Biology Initiative
12 can serve to establish new research directions and
13 technology goals, improve interagency coordination
14 and planning processes, drive technology transfer to
15 the private sector, and help ensure optimal returns
16 on the Federal investment.

17 **SEC. 3. DEFINITIONS.**

18 In this Act:

19 (1) **BIOMANUFACTURING.**—The term “bio-
20 manufacturing” means the utilization of biological
21 systems to develop new and advance existing prod-
22 ucts, tools, and processes at commercial scale.

23 (2) **ENGINEERING BIOLOGY.**—The term “engi-
24 neering biology” means the application of engineer-
25 ing design principles and practices to biological sys-

1 tems, including molecular and cellular systems, to
 2 advance fundamental understanding of complex nat-
 3 ural systems and to enable novel or optimize func-
 4 tions and capabilities.

5 (3) INITIATIVE.—The term “Initiative” means
 6 the National Engineering Biology Research and De-
 7 velopment Initiative established under section 4.

8 (4) OMICS.—The term “omics” refers to the
 9 collective technologies used to explore the roles, rela-
 10 tionships, and actions of the various types of mol-
 11 ecules that make up the cells of an organism.

12 **SEC. 4. NATIONAL ENGINEERING BIOLOGY RESEARCH AND**
 13 **DEVELOPMENT INITIATIVE.**

14 (a) IN GENERAL.—The President, acting through the
 15 Office of Science and Technology Policy, shall implement
 16 a National Engineering Biology Research and Develop-
 17 ment Initiative to advance societal well-being, national se-
 18 curity, sustainability, and economic productivity and com-
 19 petitiveness through—

20 (1) advancing areas of research at the intersec-
 21 tion of the biological, physical, chemical, data, and
 22 computational sciences and engineering to accelerate
 23 scientific understanding and technological innovation
 24 in engineering biology;

1 (2) advancing areas of biomanufacturing re-
2 search to optimize, standardize, scale, and deliver
3 new products and solutions;

4 (3) supporting social and behavioral sciences
5 and economics research that advances the field of
6 engineering biology and contributes to the develop-
7 ment and public understanding of new products,
8 processes, and technologies;

9 (4) improving the understanding of engineering
10 biology of the scientific and lay public and sup-
11 porting greater evidence-based public discourse
12 about its benefits and risks;

13 (5) supporting research relating to the risks
14 and benefits of engineering biology, including under
15 subsection (d);

16 (6) supporting the development of novel tools
17 and technologies to accelerate scientific under-
18 standing and technological innovation in engineering
19 biology;

20 (7) expanding the number of researchers, edu-
21 cators, and students and a retooled workforce with
22 engineering biology training, including from tradi-
23 tionally underrepresented and underserved popu-
24 lations;

1 (8) accelerating the translation and commer-
2 cialization of engineering biology research and devel-
3 opment by the private sector; and

4 (9) improving the interagency planning and co-
5 ordination of Federal Government activities related
6 to engineering biology.

7 (b) INITIATIVE ACTIVITIES.—The activities of the
8 Initiative shall include—

9 (1) sustained support for engineering biology
10 research and development through—

11 (A) grants to fund the work of individual
12 investigators and teams of investigators, includ-
13 ing interdisciplinary teams;

14 (B) projects funded under joint solicita-
15 tions by a collaboration of no fewer than two
16 agencies participating in the Initiative; and

17 (C) interdisciplinary research centers that
18 are organized to investigate basic research
19 questions, carry out technology development
20 and demonstration activities, and increase un-
21 derstanding of how to scale up engineering biol-
22 ogy processes, including biomanufacturing;

23 (2) sustained support for databases and related
24 tools, including—

1 (A) support for curated genomics,
2 epigenomics, and other relevant omics data-
3 bases, including plant and microbial databases,
4 that are available to researchers to carry out
5 engineering biology research in a manner that
6 does not compromise national security or the
7 privacy or security of information within such
8 databases;

9 (B) development of standards for such
10 databases, including for curation, interoper-
11 ability, and protection of privacy and security;

12 (C) support for the development of com-
13 putational tools, including artificial intelligence
14 tools, that can accelerate research and innova-
15 tion using such databases; and

16 (D) an inventory and assessment of all
17 Federal government omics databases to identify
18 opportunities to improve the utility of such
19 databases, as appropriate and in a manner that
20 does not compromise national security or the
21 privacy and security of information within such
22 databases, and inform investment in such data-
23 bases as critical infrastructure for the engineer-
24 ing biology research enterprise;

1 (3) sustained support for the development, opti-
2 mization, and validation of novel tools and tech-
3 nologies to enable the dynamic study of molecular
4 processes in situ, including through—

5 (A) research conducted at Federal labora-
6 tories;

7 (B) grants to fund the work of investiga-
8 tors at institutions of higher education and
9 other nonprofit research institutions;

10 (C) incentivized development of retooled in-
11 dustrial sites across the country that foster a
12 pivot to modernized engineering biology initia-
13 tives; and

14 (D) awards under the Small Business In-
15 novation Research Program and the Small
16 Business Technology Transfer Program, as de-
17 scribed in section 9 of the Small Business Act
18 (15 U.S.C. 638);

19 (4) support for education and training of un-
20 dergraduate and graduate students in engineering
21 biology, biomanufacturing, bioprocess engineering,
22 and computational science applied to engineering bi-
23 ology and in the related ethical, legal, environmental,
24 safety, security, and other societal domains;

1 (5) activities to develop robust mechanisms for
 2 documenting and quantifying the outputs and eco-
 3 nomic benefits of engineering biology; and

4 (6) activities to accelerate the translation and
 5 commercialization of new products, processes, and
 6 technologies by—

7 (A) identifying precompetitive research op-
 8 portunities;

9 (B) facilitating public-private partnerships
 10 in engineering biology research and develop-
 11 ment;

12 (C) connecting researchers, graduate stu-
 13 dents, and postdoctoral fellows with entrepre-
 14 neurship education and training opportunities;
 15 and

16 (D) supporting proof of concept activities
 17 and the formation of startup companies includ-
 18 ing through programs such as the Small Busi-
 19 ness Innovation Research Program and the
 20 Small Business Technology Transfer Program.

21 (c) EXPANDING PARTICIPATION.—The Initiative
 22 shall include, to the maximum extent practicable, outreach
 23 to primarily undergraduate and minority-serving institu-
 24 tions about Initiative opportunities, and shall encourage
 25 the development of research collaborations between re-

1 search-intensive universities and primarily undergraduate
2 and minority-serving institutions.

3 (d) ETHICAL, LEGAL, ENVIRONMENTAL, SAFETY,
4 SECURITY, AND SOCIETAL ISSUES.—Initiative activities
5 shall take into account ethical, legal, environmental, safe-
6 ty, security, and other appropriate societal issues by—

7 (1) supporting research, including in the social
8 sciences, and other activities addressing ethical,
9 legal, environmental, and other appropriate societal
10 issues related to engineering biology, including inte-
11 grating research on such topics with the research
12 and development in engineering biology, and encour-
13 aging the dissemination of the results of such re-
14 search, including through interdisciplinary engineer-
15 ing biology research centers described in subsection
16 (b)(1);

17 (2) supporting research and other activities re-
18 lated to the safety and security implications of engi-
19 neering biology, including outreach to increase
20 awareness among Federal researchers and Federally-
21 funded researchers at institutions of higher edu-
22 cation about potential safety and security implica-
23 tions of engineering biology research, as appropriate;

24 (3) ensuring that input from Federal and non-
25 Federal experts on the ethical, legal, environmental,

1 safety, security, and other appropriate societal issues
2 related to engineering biology is integrated into the
3 Initiative;

4 (4) ensuring, through the agencies and depart-
5 ments that participate in the Initiative, that public
6 input and outreach are integrated into the Initiative
7 by the convening of regular and ongoing public dis-
8 cussions through mechanisms such as workshops,
9 consensus conferences, and educational events, as
10 appropriate; and

11 (5) complying with all applicable provisions of
12 Federal law.

13 **SEC. 5. INITIATIVE COORDINATION.**

14 (a) INTERAGENCY COMMITTEE.—The President, act-
15 ing through the Office of Science and Technology Policy,
16 shall designate an interagency committee to coordinate ac-
17 tivities of the Initiative as appropriate, which shall be co-
18 chaired by the Office of Science and Technology Policy,
19 and include representatives from the National Science
20 Foundation, the Department of Energy, the Department
21 of Defense, the National Aeronautics and Space Adminis-
22 tration, the National Institute of Standards and Tech-
23 nology, the Environmental Protection Agency, the Depart-
24 ment of Agriculture, the Department of Health and
25 Human Services, the Bureau of Economic Analysis, and

1 any other agency that the President considers appropriate
2 (in this section referred to as the “Interagency Com-
3 mittee”). The Director of the Office of Science and Tech-
4 nology Policy shall select an additional co-chairperson
5 from among the members of the Interagency Committee.
6 The Interagency Committee shall oversee the planning,
7 management, and coordination of the Initiative. The
8 Interagency Committee shall—

9 (1) provide for interagency coordination of Fed-
10 eral engineering biology research, development, and
11 other activities undertaken pursuant to the Initia-
12 tive;

13 (2) establish and periodically update goals and
14 priorities for the Initiative;

15 (3) develop, not later than 12 months after the
16 date of the enactment of this Act, and update every
17 3 years thereafter, a strategic plan submitted to the
18 Committee on Science, Space, and Technology and
19 the Committee on Energy and Commerce of the
20 House of Representatives and the Committee on
21 Commerce, Science, and Transportation and the
22 Committee on Health, Education, Labor, and Pen-
23 sions of the Senate that—

24 (A) guides the activities of the Initiative
25 for purposes of meeting the goals and priorities

1 established under (and updated pursuant to)
2 paragraph (2); and

3 (B) describes—

4 (i) the Initiative’s support for long-
5 term funding for interdisciplinary engineer-
6 ing biology research and development;

7 (ii) the Initiative’s support for edu-
8 cation and public outreach activities;

9 (iii) the Initiative’s support for re-
10 search and other activities on ethical, legal,
11 environmental, safety, security, and other
12 appropriate societal issues related to engi-
13 neering biology including—

14 (I) an applied biorisk manage-
15 ment research plan;

16 (II) recommendations for inte-
17 grating security into biological data
18 access and international reciprocity
19 agreements;

20 (III) recommendations for manu-
21 facturing restructuring to support en-
22 gineering biology research, develop-
23 ment, and scaling-up initiatives; and

24 (IV) an evaluation of existing
25 biosecurity governance policies, guid-

1 ance, and directives for the purposes
2 of creating an adaptable, evidence-
3 based framework to respond to emerg-
4 ing biosecurity challenges created by
5 advances in engineering biology;

6 (iv) how the Initiative will contribute
7 to moving results out of the laboratory and
8 into application for the benefit of society
9 and United States competitiveness; and

10 (v) how the Initiative will measure
11 and track the contributions of engineering
12 biology to United States economic growth
13 and other societal indicators;

14 (4) develop a national genomic sequencing
15 strategy to ensure engineering biology research fully
16 leverages plant, animal, and microbe biodiversity, as
17 appropriate and in a manner that does not com-
18 promise national security or the privacy or security
19 of human genetic information, to enhance long-term
20 innovation and competitiveness in engineering biol-
21 ogy in the United States;

22 (5) develop a plan to utilize Federal programs,
23 such as the Small Business Innovation Research
24 Program and the Small Business Technology Trans-
25 fer Program as described in section 9 of the Small

1 Business Act (15 U.S.C. 638), in support of the ac-
2 tivities described in section 4(b)(3); and

3 (6) in carrying out this section, take into con-
4 sideration the recommendations of the advisory com-
5 mittee established under section 6, the results of the
6 workshop convened under section 7, existing reports
7 on related topics, and the views of academic, State,
8 industry, and other appropriate groups.

9 (b) TRIENNIAL REPORT.—Beginning with fiscal year
10 2022 and ending in fiscal year 2028, not later than 90
11 days after submission of the President’s annual budget re-
12 quest and every third fiscal year thereafter, the Inter-
13 agency Committee shall prepare and submit to the Com-
14 mittee on Science, Space, and Technology of the House
15 of Representatives and the Committee on Commerce,
16 Science, and Transportation of the Senate a report that
17 includes—

18 (1) a summarized agency budget in support of
19 the Initiative for the fiscal year to which such budg-
20 et request applies, for the following 2 fiscal years,
21 for the then current fiscal year, including a breakout
22 of spending for each agency participating in the Pro-
23 gram, and for the development and acquisition of
24 any research facilities and instrumentation; and

1 (2) an assessment of how Federal agencies are
2 implementing the plan described in subsection
3 (a)(3), including—

4 (A) a description of the amount and num-
5 ber of awards made under the Small Business
6 Innovation Research Program and the Small
7 Business Technology Transfer Program (as de-
8 scribed in section 9 of the Small Business Act
9 (15 U.S.C. 638)) in support of the Initiative;

10 (B) a description of the amount and num-
11 ber of projects funded under joint solicitations
12 by a collaboration of no fewer than 2 agencies
13 participating in the Initiative; and

14 (C) a description of the effect of the newly
15 funded projects by the Initiative.

16 (c) INITIATIVE OFFICE.—

17 (1) IN GENERAL.—The President shall establish
18 an Initiative Coordination Office, with a Director
19 and full-time staff, which shall—

20 (A) provide technical and administrative
21 support to the interagency committee and the
22 advisory committee established under section 6;

23 (B) serve as the point of contact on Fed-
24 eral engineering biology activities for govern-
25 ment organizations, academia, industry, profes-

1 sional societies, State governments, interested
2 citizen groups, and others to exchange technical
3 and programmatic information;

4 (C) oversee interagency coordination of the
5 Initiative, including by encouraging and sup-
6 porting joint agency solicitation and selection of
7 applications for funding of activities under the
8 Initiative, as appropriate;

9 (D) conduct public outreach, including dis-
10 semination of findings and recommendations of
11 the advisory committee established under sec-
12 tion 6, as appropriate;

13 (E) serve as the coordinator of ethical,
14 legal, environmental, safety, security, and other
15 appropriate societal input; and

16 (F) promote access to, and early applica-
17 tion of, the technologies, innovations, and ex-
18 pertise derived from Initiative activities to agen-
19 cy missions and systems across the Federal
20 Government, and to United States industry, in-
21 cluding startup companies.

22 (2) FUNDING.—The Director of the Office of
23 Science and Technology Policy, in coordination with
24 each participating Federal department and agency,
25 as appropriate, shall develop and annually update an

1 estimate of the funds necessary to carry out the ac-
2 tivities of the Initiative Coordination Office and sub-
3 mit such estimate with an agreed summary of con-
4 tributions from each agency to Congress as part of
5 the President's annual budget request to Congress.

6 (3) TERMINATION.—The Initiative Coordination
7 Office established under this subsection shall termi-
8 nate on the date that is 10 years after the date of
9 the enactment of this Act.

10 (d) RULE OF CONSTRUCTION.—Nothing in this sec-
11 tion shall be construed to alter the policies, processes, or
12 practices of individual Federal agencies in effect on the
13 day before the date of the enactment of this Act relating
14 to the conduct of biomedical research and advanced devel-
15 opment, including the solicitation and review of extra-
16 mural research proposals.

17 **SEC. 6. ADVISORY COMMITTEE.**

18 (a) IN GENERAL.—The agency co-chair of the inter-
19 agency committee established in section 5 shall, in con-
20 sultation with the Office of Science and Technology Policy,
21 designate or establish an advisory committee on engineer-
22 ing biology research and development (in this section re-
23 ferred to as the “advisory committee”) to be composed of
24 not fewer than 12 members, including representatives of
25 research and academic institutions, industry, and non-

1 governmental entities, who are qualified to provide advice
2 on the Initiative.

3 (b) ASSESSMENT.—The advisory committee shall as-
4 sess—

5 (1) the current state of United States competi-
6 tiveness in engineering biology, including the scope
7 and scale of United States investments in engineer-
8 ing biology research and development in the inter-
9 national context;

10 (2) current market barriers to commercializa-
11 tion of engineering biology products, processes, and
12 tools in the United States;

13 (3) progress made in implementing the Initia-
14 tive;

15 (4) the need to revise the Initiative;

16 (5) the balance of activities and funding across
17 the Initiative;

18 (6) whether the strategic plan developed or up-
19 dated by the interagency committee established
20 under section 5 is helping to maintain United States
21 leadership in engineering biology;

22 (7) the management, coordination, implementa-
23 tion, and activities of the Initiative; and

1 (8) whether ethical, legal, environmental, safety,
2 security, and other appropriate societal issues are
3 adequately addressed by the Initiative.

4 (c) REPORTS.—Beginning not later than 2 years
5 after the date of enactment of this Act, and not less fre-
6 quently than once every 3 years thereafter, the advisory
7 committee shall submit to the President, the Committee
8 on Science, Space, and Technology of the House of Rep-
9 resentatives, and the Committee on Commerce, Science,
10 and Transportation of the Senate, a report on—

11 (1) the findings of the advisory committee’s as-
12 sessment under subsection (b); and

13 (2) the advisory committee’s recommendations
14 for ways to improve the Initiative.

15 (d) APPLICATION OF FEDERAL ADVISORY COM-
16 MITTEE ACT.—Section 14 of the Federal Advisory Com-
17 mittee Act (5 U.S.C. App.) shall not apply to the Advisory
18 Committee.

19 (e) TERMINATION.—The advisory committee estab-
20 lished under subsection (a) shall terminate on the date
21 that is 10 years after the date of the enactment of this
22 Act.

1 **SEC. 7. EXTERNAL REVIEW OF ETHICAL, LEGAL, ENVIRON-**
2 **MENTAL, SAFETY, SECURITY, AND SOCIETAL**
3 **ISSUES.**

4 (a) IN GENERAL.—Not later than 6 months after the
5 date of enactment of this Act, the Director of the National
6 Science Foundation shall seek to enter into an agreement
7 with the National Academies of Sciences, Engineering,
8 and Medicine to conduct a review, and make recommenda-
9 tions with respect to, the ethical, legal, environmental,
10 safety, security, and other appropriate societal issues re-
11 lated to engineering biology research and development.
12 The review shall include—

13 (1) an assessment of the current research on
14 such issues;

15 (2) a description of the research gaps relating
16 to such issues;

17 (3) recommendations on how the Initiative can
18 address the research needs identified pursuant to
19 paragraph (2); and

20 (4) recommendations on how researchers en-
21 gaged in engineering biology can best incorporate
22 considerations of ethical, legal, environmental, safe-
23 ty, security, and other societal issues into the devel-
24 opment of research proposals and the conduct of re-
25 search.

1 (b) REPORT TO CONGRESS.—The agreement entered
 2 into under subsection (a) shall require the National Acad-
 3 emies of Sciences, Engineering, and Medicine to, not later
 4 than 2 years after the date of the enactment of this Act—

5 (1) submit to the Committee on Science, Space,
 6 and Technology of the House of Representatives and
 7 the Committee on Commerce, Science, and Trans-
 8 portation of the Senate a report containing the find-
 9 ings and recommendations of the review conducted
 10 under subsection (a); and

11 (2) make a copy of such report available on a
 12 publicly accessible website.

13 **SEC. 8. AGENCY ACTIVITIES.**

14 (a) NATIONAL SCIENCE FOUNDATION.—As part of
 15 the Initiative, the National Science Foundation shall—

16 (1) support basic research in engineering biol-
 17 ogy through individual grants, collaborative grants,
 18 and through interdisciplinary research centers;

19 (2) support research on the environmental,
 20 legal, ethical, and social implications of engineering
 21 biology;

22 (3) provide support for research instrumenta-
 23 tion for engineering biology disciplines, including
 24 support for research, development, optimization and

1 validation of novel technologies to enable the dy-
2 namic study of molecular processes in situ;

3 (4) support curriculum development and re-
4 search experiences for secondary, undergraduate,
5 and graduate students in engineering biology and
6 biomanufacturing; and

7 (5) award grants, on a competitive basis, to en-
8 able institutions to support graduate students and
9 postdoctoral fellows who perform some of their engi-
10 neering biology research in an industry setting.

11 (b) DEPARTMENT OF COMMERCE.—As part of the
12 Initiative, the Director of the National Institute of Stand-
13 ards and Technology shall—

14 (1) establish a bioscience research program to
15 advance the development of standard reference ma-
16 terials and measurements and to create new data
17 tools, techniques, and processes necessary to advance
18 engineering biology and biomanufacturing;

19 (2) provide access to user facilities with ad-
20 vanced or unique equipment, services, materials, and
21 other resources to industry, institutions of higher
22 education, nonprofit organizations, and government
23 agencies to perform research and testing; and

24 (3) provide technical expertise to inform the po-
25 tential development of guidelines or safeguards for

1 new products, processes, and systems of engineering
2 biology.

3 (c) DEPARTMENT OF ENERGY.—As part of the Ini-
4 tiative, the Secretary of Energy shall—

5 (1) conduct and support research, development,
6 demonstration, and commercial application activities
7 in engineering biology, including in the areas of syn-
8 thetic biology, advanced biofuel development,
9 biobased materials, and environmental remediation;

10 (2) support the development, optimization and
11 validation of novel, scalable tools and technologies to
12 enable the dynamic study of molecular processes in
13 situ; and

14 (3) provide access to user facilities with ad-
15 vanced or unique equipment, services, materials, and
16 other resources, including secure access to high-per-
17 formance computing, as appropriate, to industry, in-
18 stitutions of higher education, nonprofit organiza-
19 tions, and government agencies to perform research
20 and testing.

21 (d) DEPARTMENT OF DEFENSE.—As part of the Ini-
22 tiative, the Secretary of Defense shall—

23 (1) conduct and support research and develop-
24 ment in engineering biology and associated data and
25 information sciences;

1 (2) support curriculum development and re-
2 search experiences in engineering biology and associ-
3 ated data and information sciences across the mili-
4 tary education system, to include service academies,
5 professional military education, and military grad-
6 uate education; and

7 (3) assess risks of potential national security
8 and economic security threats relating to engineering
9 biology.

10 (e) NATIONAL AERONAUTICS AND SPACE ADMINIS-
11 TRATION.—As part of the Initiative, the National Aero-
12 nautics and Space Administration shall—

13 (1) conduct and support basic and applied re-
14 search in engineering biology, including in synthetic
15 biology, and related to Earth and space sciences,
16 aeronautics, space technology, and space exploration
17 and experimentation, consistent with the priorities
18 established in the National Academies’ decadal sur-
19 veys; and

20 (2) award grants, on a competitive basis, that
21 enable institutions to support graduate students and
22 postdoctoral fellows who perform some of their engi-
23 neering biology research in an industry setting.

24 (f) DEPARTMENT OF AGRICULTURE.—As part of the
25 Initiative, the Secretary of Agriculture shall—

1 (1) support research and development in engi-
 2 neering biology, including in synthetic biology and
 3 biomaterials;

4 (2) award grants through the National Institute
 5 of Food and Agriculture; and

6 (3) support development conducted by the Agri-
 7 cultural Research Service.

8 (g) ENVIRONMENTAL PROTECTION AGENCY.—As
 9 part of the Initiative, the Environmental Protection Agen-
 10 cy shall support research on how products, processes, and
 11 systems of engineering biology will affect or can protect
 12 the environment.

13 (h) DEPARTMENT OF HEALTH AND HUMAN SERV-
 14 ICES.—As part of the Initiative, the Secretary of Health
 15 and Human Services, as appropriate and consistent with
 16 activities of the Department of Health and Human Serv-
 17 ices in effect on the day before the date of the enactment
 18 of this Act, shall—

19 (1) support research and development to ad-
 20 vance the understanding and application of engineer-
 21 ing biology for human health;

22 (2) support relevant interdisciplinary research
 23 and coordination; and

24 (3) support activities necessary to facilitate
 25 oversight of relevant emerging biotechnologies.

1 **SEC. 9. RULE OF CONSTRUCTION.**

2 Nothing in this Act shall be construed to require pub-
3 lic disclosure of information that is exempt from manda-
4 tory disclosure under section 552 of title 5, United States
5 Code.

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