

**Suspend the Rules and Pass the Bill, H. R. 2051, With an
Amendment**

**(The amendment strikes all after the enacting clause and inserts a
new text)**

116TH CONGRESS
1ST SESSION

H. R. 2051

To provide for Federal coordination of activities supporting sustainable
chemistry, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 3, 2019

Mr. LIPINSKI (for himself and Mr. MOOLENAAR) introduced the following bill;
which was referred to the Committee on Science, Space, and Technology,
and in addition to the Committee on the Budget, for a period to be subse-
quently determined by the Speaker, in each case for consideration of such
provisions as fall within the jurisdiction of the committee concerned

A BILL

To provide for Federal coordination of activities supporting
sustainable chemistry, 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 “Sustainable Chemistry
5 Research and Development Act of 2019”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) Congress recognized the importance and
4 value of sustainable chemistry and the role of the
5 Federal Government in section 114 of the American
6 Innovation and Competitiveness Act (Public Law
7 114–329);

8 (2) sustainable chemistry and materials trans-
9 formation is a key value contributor to business
10 competitiveness across many industrial and con-
11 sumer sectors;

12 (3) companies across hundreds of supply chains
13 critical to the American economy are seeking to re-
14 duce costs and open new markets through innova-
15 tions in manufacturing and materials, and are in
16 need of new innovations in chemistry, including sus-
17 tainable chemistry;

18 (4) sustainable chemistry can improve the effi-
19 ciency with which natural resources are used to meet
20 human needs for chemical products while avoiding
21 environmental harm, reduce or eliminate the emis-
22 sions of and exposures to hazardous substances,
23 minimize the use of resources, and benefit the econ-
24 omy, people, and the environment; and

25 (5) a recent report by the Government Account-
26 ability Office (GAO–18–307) found that the Federal

1 Government could play an important role in helping
2 realize the full innovation and market potential of
3 sustainable chemistry technologies, including
4 through a coordinated national effort on sustainable
5 chemistry and standardized tools and definitions to
6 support sustainable chemistry research, development,
7 demonstration, and commercialization.

8 **SEC. 3. NATIONAL COORDINATING ENTITY FOR SUSTAIN-**
9 **ABLE CHEMISTRY.**

10 (a) ESTABLISHMENT.—Not later than 180 days after
11 the date of enactment of this Act, the Director of the Of-
12 fice of Science and Technology Policy shall convene an
13 interagency entity (referred to in this Act as the “Entity”)
14 under the National Science and Technology Council with
15 the responsibility to coordinate Federal programs and ac-
16 tivities in support of sustainable chemistry, including
17 those described in sections 5 and 6.

18 (b) COORDINATION WITH EXISTING GROUPS.—In
19 convening the Entity, the Director of the Office of Science
20 and Technology Policy shall consider overlap and possible
21 coordination with existing committees, subcommittees, or
22 other groups of the National Science and Technology
23 Council, such as—

24 (1) the Committee on Environment;

25 (2) the Committee on Technology;

1 (3) the Committee on Science; or

2 (4) related groups or subcommittees.

3 (c) CO-CHAIRS.—The Entity shall be co-chaired by
4 the Office of Science and Technology Policy and a rep-
5 resentative from the Environmental Protection Agency,
6 the National Institute of Standards and Technology, the
7 National Science Foundation, or the Department of En-
8 ergy, as selected by the Director of the Office of Science
9 and Technology Policy.

10 (d) AGENCY PARTICIPATION.—The Entity shall in-
11 clude representatives, including subject matter experts,
12 from the Environmental Protection Agency, the National
13 Institute of Standards and Technology, the National
14 Science Foundation, the Department of Energy, the De-
15 partment of Agriculture, the Department of Defense, the
16 National Institutes of Health, the Centers for Disease
17 Control and Prevention, the Food and Drug Administra-
18 tion, the Office of Management and Budget, and other re-
19 lated Federal agencies, as appropriate.

20 (e) TERMINATION.—The Entity shall terminate on
21 the date that is 10 years after the date of enactment of
22 this Act.

23 **SEC. 4. ROADMAP FOR SUSTAINABLE CHEMISTRY.**

24 (a) ROADMAP.—Not later than 2 years after the date
25 of enactment of this Act, the Entity shall—

1 (1) consult with relevant stakeholders including
2 representatives from industry, academia, the Federal
3 Government, and international entities to develop
4 and update as needed a consensus definition of “sus-
5 tainable chemistry” to guide the activities under this
6 Act;

7 (2) develop a working framework of attributes
8 characterizing and metrics for assessing sustainable
9 chemistry, as described in subsection (b);

10 (3) assess the state of sustainable chemistry in
11 the United States as a key benchmark from which
12 progress under the activities described in this Act
13 can be measured, including assessing key sectors of
14 the United States economy, key technology plat-
15 forms, commercial priorities, and barriers to innova-
16 tion;

17 (4) coordinate and support Federal research,
18 development, demonstration, technology transfer,
19 commercialization, education, and training efforts in
20 sustainable chemistry, including budget coordination
21 and support for public-private partnerships, as ap-
22 propriate;

23 (5) identify methods by which the Federal
24 agencies can facilitate the development of incentives
25 for development, consideration and use of sustain-

1 able chemistry processes and products, including in-
2 novative financing mechanisms;

3 (6) identify major scientific challenges, road-
4 blocks, or hurdles to transformational progress in
5 improving the sustainability of the chemical sciences;
6 and

7 (7) identify other opportunities for expanding
8 Federal efforts in support of sustainable chemistry.

9 (b) CHARACTERIZING AND ASSESSING SUSTAINABLE
10 CHEMISTRY.—The Entity shall develop a working frame-
11 work of attributes characterizing and metrics for assessing
12 sustainable chemistry for the purposes of carrying out the
13 Act. In developing this framework, the Entity shall—

14 (1) seek advice and input from stakeholders as
15 described in subsection (c);

16 (2) consider existing definitions of or frame-
17 works characterizing and metrics for assessing sus-
18 tainable chemistry already in use at Federal agen-
19 cies;

20 (3) consider existing definitions of or frame-
21 works characterizing and metrics for assessing sus-
22 tainable chemistry already in use by international
23 organizations of which the United States is a mem-
24 ber, such as the Organisation for Economic Co-oper-
25 ation and Development; and

1 (4) consider any other appropriate existing defi-
2 nitions of or frameworks characterizing and metrics
3 for assessing sustainable chemistry.

4 (c) CONSULTATION.—In carrying out the duties de-
5 scribed in subsections (a) and (b), the Entity shall consult
6 with stakeholders qualified to provide advice and informa-
7 tion to guide Federal activities related to sustainable
8 chemistry through workshops, requests for information,
9 and other mechanisms as necessary. The stakeholders
10 shall include representatives from—

11 (1) business and industry (including trade asso-
12 ciations and small- and medium-sized enterprises
13 from across the value chain);

14 (2) the scientific community (including the Na-
15 tional Academies of Sciences, Engineering, and Med-
16 icine, scientific professional societies, and academia);

17 (3) the defense community;

18 (4) State, tribal, and local governments, includ-
19 ing nonregulatory State or regional sustainable
20 chemistry programs, as appropriate;

21 (5) nongovernmental organizations; and

22 (6) other appropriate organizations.

23 (d) REPORT TO CONGRESS.—

24 (1) IN GENERAL.—Not later than 3 years after
25 the date of enactment of this Act, the Entity shall

1 submit a report to the Committee on Environment
2 and Public Works, the Committee on Commerce,
3 Science, and Transportation, and the Committee on
4 Appropriations of the Senate, and the Committee on
5 Science, Space, and Technology, the Committee on
6 Energy and Commerce, and the Committee on Ap-
7 propriations of the House of Representatives. In ad-
8 dition to the elements described in subsections (a)
9 and (b), the report shall include—

10 (A) a summary of federally funded, sus-
11 tainable chemistry research, development, dem-
12 onstration, technology transfer, commercializa-
13 tion, education, and training activities;

14 (B) a summary of the financial resources
15 allocated to sustainable chemistry initiatives;

16 (C) an assessment of the current state of
17 sustainable chemistry in the United States, in-
18 cluding the role that Federal agencies are play-
19 ing in supporting it;

20 (D) an analysis of the progress made to-
21 ward achieving the goals and priorities of this
22 Act, and recommendations for future program
23 activities;

24 (E) an assessment of the benefits of ex-
25 panding existing, federally supported, regional

1 innovation and manufacturing hubs, centers,
2 and institutes to include sustainable chemistry
3 and the value of directing the creation of 1 or
4 more dedicated sustainable chemistry centers of
5 excellence, hubs, or institutes; and

6 (F) an evaluation of steps taken and fu-
7 ture strategies to avoid duplication of efforts,
8 streamline interagency coordination, facilitate
9 information sharing, and spread best practices
10 among participating agencies.

11 (2) SUBMISSION TO GAO.—The Entity shall
12 also submit the report described in paragraph (1) to
13 the Comptroller General of the United States for
14 consideration in future Congressional inquiries.

15 **SEC. 5. AGENCY ACTIVITIES IN SUPPORT OF SUSTAINABLE**
16 **CHEMISTRY.**

17 (a) IN GENERAL.—The agencies participating in the
18 Entity shall carry out activities in support of sustainable
19 chemistry, as appropriate to the specific mission and pro-
20 grams of each agency.

21 (b) ACTIVITIES.—The activities described in sub-
22 section (a) shall—

23 (1) incorporate sustainable chemistry into exist-
24 ing research, development, demonstration, tech-
25 nology transfer, commercialization, education, and

1 training programs, that the agency determines to be
2 relevant, including consideration of—

3 (A) merit-based competitive grants to indi-
4 vidual investigators and teams of investigators,
5 including, to the extent practicable, early career
6 investigators for research and development;

7 (B) grants to fund collaborative research
8 and development partnerships among univer-
9 sities, industry, and nonprofit organizations;

10 (C) coordination of sustainable chemistry
11 research, development, demonstration, and tech-
12 nology transfer conducted at Federal labora-
13 tories and agencies;

14 (D) incentive prize competitions and chal-
15 lenges in coordination with such existing Fed-
16 eral agency programs; and

17 (E) grants, loans, and loan guarantees to
18 aid in the technology transfer and commer-
19 cialization of sustainable chemicals, materials,
20 processes, and products;

21 (2) collect and disseminate information on sus-
22 tainable chemistry research, development, technology
23 transfer, and commercialization, including informa-
24 tion on accomplishments and best practices;

1 (3) raise awareness of sustainable chemistry
2 concepts through public outreach activities;

3 (4) expand the education and training of stu-
4 dents at all levels of education, professional sci-
5 entists and engineers, and other professionals in-
6 volved in all aspects of sustainable chemistry and en-
7 gineering appropriate to that level of education and
8 training, including through—

9 (A) partnerships with industry as de-
10 scribed in section 6;

11 (B) support for the integration of sustain-
12 able chemistry principles into elementary, sec-
13 ondary, undergraduate, and graduate chemistry
14 and chemical engineering curriculum and re-
15 search training, as appropriate to that level of
16 education and training; and

17 (C) support for integration of sustainable
18 chemistry principles into existing or new profes-
19 sional development opportunities for profes-
20 sionals including teachers, faculty, and individ-
21 uals involved in laboratory research, (product
22 development, materials specification and test-
23 ing, life cycle analysis, and management);

24 (5) as relevant to an agency's programs, exam-
25 ine methods by which the Federal agencies, in col-

1 laboration and consultation with the National Insti-
2 tute of Standards and Technology, may facilitate the
3 development or recognition of validated, standard-
4 ized tools for performing sustainability assessments
5 of chemistry processes or products;

6 (6) through programs identified by an agency,
7 support (including through technical assistance, par-
8 ticipation, financial support, communications tools,
9 awards, or other forms of support) outreach and dis-
10 semination of sustainable chemistry advances such
11 as non-Federal symposia, forums, conferences, and
12 publications in collaboration with, as appropriate, in-
13 dustry, academia, scientific and professional soci-
14 eties, and other relevant groups;

15 (7) provide for public input and outreach to be
16 integrated into the activities described in this section
17 by the convening of public discussions, through
18 mechanisms such as public meetings, consensus con-
19 ferences, and educational events, as appropriate;

20 (8) within each agency, develop metrics to track
21 the outputs and outcomes of the programs supported
22 by that agency; and

23 (9) incentivize or recognize actions that advance
24 sustainable chemistry products, processes, or initia-
25 tives, including through the establishment of a na-

1 tionally recognized awards program through the En-
2 vironmental Protection Agency to identify, publicize,
3 and celebrate innovations in sustainable chemistry
4 and chemical technologies.

5 (c) LIMITATIONS.—Financial support provided under
6 this section shall—

7 (1) be available only for pre-competitive activi-
8 ties; and

9 (2) not be used to promote the sale of a specific
10 product, process, or technology, or to disparage a
11 specific product, process, or technology.

12 (d) AGENCY BUDGET REPORT.—For each of fiscal
13 years 2021 through 2030, not later than 90 days after
14 submission of the President’s annual budget request, the
15 Entity shall prepare and submit to the Committee on En-
16 vironment and Public Works, the Committee on Com-
17 merce, Science, and Transportation, and the Committee
18 on Appropriations of the Senate, and the Committee on
19 Science, Space, and Technology, the Committee on Energy
20 and Commerce, and the Committee on Appropriations of
21 the House of Representatives a report that includes a
22 summarized agency budget in support of the activities
23 under this Act for the fiscal year to which such budget
24 request applies, and for the then current fiscal year, in-

1 cluding a breakout of spending for each agency partici-
2 pating in such activities.

3 **SEC. 6. PARTNERSHIPS IN SUSTAINABLE CHEMISTRY.**

4 (a) IN GENERAL.—The agencies participating in the
5 Entity may facilitate and support, through financial, tech-
6 nical, or other assistance, the creation of partnerships be-
7 tween institutions of higher education, nongovernmental
8 organizations, consortia, or companies across the value
9 chain in the chemical industry, including small- and me-
10 dium-sized enterprises, to—

11 (1) create collaborative sustainable chemistry
12 research, development, demonstration, technology
13 transfer, and commercialization programs; and

14 (2) train students and retrain professional sci-
15 entists, engineers, and others involved in materials
16 specification on the use of sustainable chemistry con-
17 cepts and strategies by methods, including—

18 (A) developing or recognizing curricular
19 materials and courses for undergraduate and
20 graduate levels and for the professional develop-
21 ment of scientists, engineers, and others in-
22 volved in materials specification; and

23 (B) publicizing the availability of profes-
24 sional development courses in sustainable chem-

1 istry and recruiting professionals to pursue
2 such courses.

3 (b) PRIVATE SECTOR PARTICIPATION.—To be eligi-
4 ble for support under this section, a partnership in sus-
5 tainable chemistry shall include at least one private sector
6 organization.

7 (c) SELECTION OF PARTNERSHIPS.—In selecting
8 partnerships for support under this section, the agencies
9 participating in the Entity shall also consider the extent
10 to which the applicants are willing and able to dem-
11 onstrate evidence of support for, and commitment to, the
12 goals outlined in the roadmap and report described in sec-
13 tion 4.

14 (d) PROHIBITED USE OF FUNDS.—Financial support
15 provided under this section may not be used—

16 (1) to support or expand a regulatory chemical
17 management program at an implementing agency
18 under a State law;

19 (2) to construct or renovate a building or struc-
20 ture; or

21 (3) to promote the sale of a specific product,
22 process, or technology, or to disparage a specific
23 product, process, or technology.

1 **SEC. 7. PRIORITIZATION.**

2 In carrying out this Act, the Entity shall focus its
3 support for sustainable chemistry activities on those that
4 achieve, to the highest extent practicable, the goals out-
5 lined in the Act.

6 **SEC. 8. RULE OF CONSTRUCTION.**

7 Nothing in this Act shall be construed to alter or
8 amend any State law or action with regard to sustainable
9 chemistry, as defined by the State.