

content generated by generative adversarial networks;

(2) fundamental research on technical tools for identifying manipulated or synthesized content, such as watermarking systems for generated media;

(3) social and behavioral research related to manipulated or synthesized content, including human engagement with the content;

(4) research on public understanding and awareness of manipulated and synthesized content, including research on best practices for educating the public to discern authenticity of digital content; and

(5) research awards coordinated with other federal agencies and programs, including the Defense Advanced Research Projects Agency and the Intelligence Advanced Research Projects Agency,<sup>1</sup> with coordination enabled by the Networking and Information Technology Research and Development Program.

(Pub. L. 116–258, § 3, Dec. 23, 2020, 134 Stat. 1151.)

### § 9203. NIST support for research and standards on generative adversarial networks

#### (a) In general

The Director of the National Institute of Standards and Technology shall support research for the development of measurements and standards necessary to accelerate the development of the technological tools to examine the function and outputs of generative adversarial networks or other technologies that synthesize or manipulate content.

#### (b) Outreach

The Director of the National Institute of Standards and Technology shall conduct outreach—

(1) to receive input from private, public, and academic stakeholders on fundamental measurements and standards research necessary to examine the function and outputs of generative adversarial networks; and

(2) to consider the feasibility of an ongoing public and private sector engagement to develop voluntary standards for the function and outputs of generative adversarial networks or other technologies that synthesize or manipulate content.

(Pub. L. 116–258, § 4, Dec. 23, 2020, 134 Stat. 1151.)

### § 9204. Generative adversarial network defined

In this chapter, the term “generative adversarial network” means, with respect to artificial intelligence, the machine learning process of attempting to cause a generator artificial neural network (referred to in this section as the “generator”<sup>1</sup> and a discriminator artificial neural network (referred to in this section as a “discriminator”) to compete against each other to become more accurate in their function and outputs, through which the generator and discriminator create a feedback loop, causing the generator to produce increasingly higher-quality artificial outputs and the discriminator to increas-

<sup>1</sup> So in original. Probably should be “Activity.”

<sup>1</sup> So in original. Probably should be followed by a closing parenthesis.

ingly improve in detecting such artificial outputs.

(Pub. L. 116–258, § 6, Dec. 23, 2020, 134 Stat. 1152.)

#### REFERENCES IN TEXT

This chapter, referred to in text, was in the original “this Act”, meaning Pub. L. 116–258, Dec. 23, 2020, 134 Stat. 1150, known as the Identifying Outputs of Generative Adversarial Networks Act and also as the IOGAN Act, which is classified principally to this chapter. For complete classification of this Act to the Code, see Short Title note set out under section 9201 of this title and Tables.

This section, referred to in text, was in the original “this paragraph”, and was translated as reading “this section”, meaning section 6 of Pub. L. 116–258, to reflect the probable intent of Congress.

## CHAPTER 118—SUSTAINABLE CHEMISTRY

Sec.	
9301.	National coordinating entity for sustainable chemistry.
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### § 9301. National coordinating entity for sustainable chemistry

#### (a) Establishment

Not later than 180 days after January 1, 2021, the Director of the Office of Science and Technology Policy shall convene an interagency entity (referred to in this chapter as the “Entity”) under the National Science and Technology Council with the responsibility to coordinate Federal programs and activities in support of sustainable chemistry, including those described in sections 9303 and 9304 of this title.

#### (b) Coordination with existing groups

In convening the Entity, the Director of the Office of Science and Technology Policy shall consider overlap and possible coordination with existing committees, subcommittees, or other groups of the National Science and Technology Council, such as—

- (1) the Committee on Environment;
- (2) the Committee on Technology;
- (3) the Committee on Science; or
- (4) related groups or subcommittees.

#### (c) Co-chairs

The Entity shall be co-chaired by the Director of the Office of Science and Technology Policy and a representative from the Environmental Protection Agency, the National Institute of Standards and Technology, the National Science Foundation, or the Department of Energy, as selected by the Director of the Office of Science and Technology Policy.

#### (d) Agency participation

The Entity shall include representatives, including subject matter experts, from the Environmental Protection Agency, the National Institute of Standards and Technology, the National Science Foundation, the Department of Energy, the Department of Agriculture, the Department of Defense, the National Institutes of Health, the Centers for Disease Control and Pre-

vention, the Food and Drug Administration, and other related Federal agencies, as appropriate.

**(e) Termination**

The Entity shall terminate on the date that is 10 years after January 1, 2021.

(Pub. L. 116-283, div. A, title II, §261, Jan. 1, 2021, 134 Stat. 3497.)

REFERENCES IN TEXT

This chapter, referred to in subsec. (a), was in the original “this subtitle”, meaning subtitle E (§§261-267) of title II of Pub. L. 116-283, div. A, Jan. 1, 2021, 134 Stat. 3497, which is classified principally to this chapter. For complete classification of subtitle E to the Code, see Tables.

**§ 9302. Strategic plan for sustainable chemistry**

**(a) Strategic plan**

Not later than 2 years after January 1, 2021, the Entity shall—

(1) consult with relevant stakeholders, including representatives from industry, academia, national labs, the Federal Government, and international entities, to develop and update, as needed, a consensus definition of “sustainable chemistry” to guide the activities under this chapter;

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

(3) assess the state of sustainable chemistry in the United States as a key benchmark from which progress under the activities described in this chapter can be measured, including assessing key sectors of the United States economy, key technology platforms, commercial priorities, and barriers to innovation;

(4) coordinate and support Federal research, development, demonstration, technology transfer, commercialization, education, and training efforts in sustainable chemistry, including budget coordination and support for public-private partnerships, as appropriate;

(5) identify any Federal regulatory barriers to, and opportunities for, Federal agencies facilitating the development of incentives for development, consideration, and use of sustainable chemistry processes and products;

(6) identify major scientific challenges, roadblocks, and hurdles to transformational progress in improving the sustainability of the chemical sciences; and

(7) review, identify, and make effort to eliminate duplicative Federal funding and duplicative Federal research in sustainable chemistry.

**(b) Characterizing and assessing sustainable chemistry**

The Entity shall develop a working framework of attributes characterizing, and metrics for assessing, sustainable chemistry for the purposes of carrying out this chapter. In developing this framework, the Entity shall—

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

(2) consider existing definitions of, or frameworks characterizing and metrics for assessing, sustainable chemistry already in use at Federal agencies;

(3) consider existing definitions of, or frameworks characterizing and metrics for assessing, sustainable chemistry already in use by international organizations of which the United States is a member, such as the Organisation for Economic Co-operation and Development; and

(4) consider any other appropriate existing definitions of, or frameworks characterizing and metrics for assessing, sustainable chemistry.

**(c) Consultation**

In carrying out the duties described in subsections (a) and (b), the Entity shall consult with stakeholders qualified to provide advice and information to guide Federal activities related to sustainable chemistry through workshops, requests for information, or other mechanisms as necessary. The stakeholders shall include representatives from—

(1) business and industry, including trade associations and small- and medium-sized enterprises from across the value chain;

(2) the scientific community, including the National Academies of Sciences, Engineering, and Medicine, scientific professional societies, national labs, and academia;

(3) the defense community;

(4) State, tribal, and local governments, including nonregulatory State or regional sustainable chemistry programs, as appropriate;

(5) nongovernmental organizations; and

(6) other appropriate organizations.

**(d) Report to Congress**

**(1) In general**

Not later than 2 years after January 1, 2021, the Entity shall submit a report to the Committee on Environment and Public Works, the Committee on Commerce, Science, and Transportation, the Committee on Agriculture, Nutrition, and Forestry, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate, and the Committee on Science, Space, and Technology, the Committee on Energy and Commerce, the Committee on Agriculture, the Committee on Education and Labor, and the Committee on Appropriations of the House of Representatives. In addition to the elements described in subsections (a) and (b), the report shall include—

(A) a summary of federally funded sustainable chemistry research, development, demonstration, technology transfer, commercialization, education, and training activities;

(B) a summary of the financial resources allocated to sustainable chemistry initiatives by each participating agency;

(C) an assessment of the current state of sustainable chemistry in the United States, including the role that Federal agencies are playing in supporting it;

(D) an analysis of the progress made toward achieving the goals and priorities of this chapter, and recommendations for future program activities;

(E) an evaluation of steps taken and future strategies to avoid duplication of efforts,