

Regulatory Developments: NSTC's Sustainable Chemistry Strategy Team Releases Sustainable Chemistry Report

Article By:

Government Regulation

On August 3, 2023, the Joint Subcommittee on Environment, Innovation, and Public Health Sustainable Chemistry Strategy Team (Sustainable Chemistry ST) of the National Science and Technology Council (NSTC) published a report entitled [Sustainable Chemistry Report: Framing the Federal Landscape](#). As reported in our January 19, 2021, [memorandum](#), the fiscal year (FY) 2021 National Defense Authorization Act (NDAA) included the text of the bipartisan Sustainable Chemistry Research and Development Act of 2019. It established an interagency working group led by the Office of Science and Technology Policy (OSTP) to coordinate federal programs and activities in support of sustainable chemistry. The report establishes the federal landscape and provides a high-level overview of relevant topical areas around sustainable chemistry. The Sustainable Chemistry ST notes that it is a state of science report that includes gaps and opportunities for the federal government. Following the report, the Sustainable Chemistry ST will develop a strategic plan for how the federal government can leverage these opportunities to make significant progress in addressing the identified data gaps.

The purpose of the report is to describe the state of federal sustainable chemistry activities and the scientific challenges, roadblocks, and hurdles to transformational progress in improving the sustainability of chemistry. In service of this goal and to reach the mandates of the NDAA, the report:

- Proposes a consensus definition of sustainable chemistry;
- Proposes a working framework of attributes characterizing and considerations for evaluating sustainable chemistry;
- Assesses the status of sustainable chemistry in the United States, including its applicability and utility in key sectors of the economy, key technological platforms, commercial priorities, global priorities, workforce development and education, current innovative trends, and barriers to innovation; and
- Summarizes the federal regulations relevant to sustainable chemistry.

The report includes the following definition of sustainable chemistry:

Sustainable chemistry is the chemistry that produces compounds or materials from building blocks, reagents, and catalysts that are readily-available and renewable, operates at optimal efficiency, and employs renewable energy sources; this includes the intentional design, manufacture, use, and end-of-life management of chemicals, materials, and products across their lifecycle that do not adversely impact human health and the environment, while promoting circularity, meeting societal needs, contributing to economic resilience, and aspiring to perpetually use elements, compounds, and materials without depletion of resources or accumulation of waste.

The report summarizes the current sustainable chemistry landscape and identifies data gaps and research needs critical to progressing sustainable chemistry research and development (R&D). It provides information for the development of a federal strategic plan, in which coordination and collaboration across agencies will greatly expedite progress. The report notes that additionally, there is a need for coordination between the federal government and state, local, Tribal, and territorial entities, as well as outreach activities that engage or inform the public. According to the report, coordination with international partners is also critical for economic and national security. The report states that the strategic areas identified provide a roadmap for sustainable chemistry activities that, when addressed, will generate actionable information to guide federal agencies and sustainable chemistry collaborators and partners.

The report notes that the Biden Administration has accelerated efforts to advance sustainable chemistry practices. The capabilities and approaches developed in response to the report should lead to a holistic treatment of sustainable chemistry. The report states that over the next year, the Sustainable Chemistry ST “will operationalize a strategic plan and implementation framework that organizes and coordinates activities in these strategic areas by harnessing existing research and accelerating transformative advancements.” The Sustainable Chemistry ST will be developed through and informed by engagement of stakeholders, collaborators, and partners that range from researchers and citizen scientists to public health experts, industries, governments (federal, state, local, Tribal, and territorial), non-governmental organizations, and civil society. The information generated will inform sustainable chemistry standards and metrics, decarbonization, circularity, and the use of novel methods for assessing sustainable chemistry and will fuel other innovative public health actions and help the United States realize its vision of clean drinking water, clean air, and safe food for all.

Commentary

Bergeson & Campbell, P.C. applauds OSTP’s preparation and release of this strategic plan. It lays out a bold and ambitious vision for advancing sustainable chemistry. Implementing this plan will require a sustained effort across the federal government over a long time horizon, but the goal is an important one that justifies the effort.

Both The Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) are called out as key regulatory authorities that overlap with sustainable chemistry. Unfortunately, the report only focuses on EPA’s effort to regulate existing chemicals as a potential driver for the adoption of sustainable chemistry and ignores the many concerns that have been expressed regarding EPA’s implementation of TSCA Section 5 and its role in posing a significant barrier to commercial adoption of chemicals that contribute to sustainability. In our view, until EPA considers contributions to sustainability in its new chemical reviews, the chemical marketplace will be wrongly denied sustainable new chemicals and forced to continue to rely on the less sustainable, existing chemicals that will not be reviewed under TSCA Section 6 for decades, if

not longer. Nevertheless, we are hopeful that, as the strategy is implemented, EPA will take sustainability characteristics into consideration in its new chemicals review.

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