



Mainstreaming Green Chemistry- Understanding the Policy Drivers

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History of Green Chemistry Policy

1990—*Pollution Prevention Act* becomes law and starts series of EPA voluntary programs, research activities, and cooperative agreements in “alternative synthetic pathways

1995—Presidential Green Chemistry Challenge Awards established

1997—GCI established (joined ACS in 2001) and OECD and IUPAC begin green chemistry discussions

2001—*Small Business Pollution Prevention Act* proposes incentives for greening of dry cleaning chemicals and Massachusetts considers tax incentives for green chemistry R&D

2004—multi-faceted *Green Chemistry R&D* legislation first introduced in Congress

2008—California establishes Green Chemistry Initiative

2010—Congress adopts green chemistry language in COMPETES

Sustainable Chemistry at the National Science Foundation



- Green chemistry language included in a S&T reauthorization law in 2010 (COMPETES)
- Science, Engineering, and Education for Sustainability (SEES) program funded at \$23 in FY 2015
- Expected to sunset in 2017
- SEES Postdoctoral Fellows Program – discontinued
- Sustainable Chemistry, Engineering, and Materials (SusChEM) research program receives majority of funding leftover from SEES.



Policy Drivers

- Regulation
- Research support
- Manufacturing centers
- Scale-up support
- Voluntary programs
- Standards
- Incentives (e.g., tax, regulatory)
- Workforce
- Coordination
- Data Collection
- Awards and Prizes
- Alternatives development
- Preferential purchasing

Policy Issues

- Green chemistry v. Sustainable chemistry
- Regulation (Toxic Use Reduction) v. Technology (Innovation)
- Mandatory v. Voluntary
- Federal v. State (v. International)
- Banning certain chemical use v. Alternatives development
- Burden of Proof and changes in chemicals testing (toxicology)

Frank Lautenberg Chemical Safety for the 21st Century Act (S.697)



- Bipartisan TSCA reauthorization proposed by Senators David Vitter (R-LA) and Tom Udall (D-NM)
- Once-in-a-decade window to repair a law that has been flawed since its introduction in 1976
- Major political struggle in progress
- Contains a sustainable chemistry R&D section on which ACS and GC3 have worked closely with Senator Chris Coons (D-DE)
 - Creates a presidential council to coordinate research between federal agencies
 - Expands support for green and sustainable chemistry within the federal government, including public private partnerships
 - Request a broad federal study of sustainable chemistry to needs and challenges
- *Sustainable Chemistry R&D Act (S.2879 in 2014)* not yet introduced

Discussion

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Sustainable Chemistry R&D Act (2014)



113TH CONGRESS
2D SESSION

S. 2879

To provide for the implementation of a Sustainable Chemistry Program, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 18, 2014

Mr. COONS (for himself, Ms. COLLINS, Mr. ROCKEFELLER, and Mr. ISAKSON) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To provide for the implementation of a Sustainable Chemistry Program, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,
SECTION 1. SHORT TITLE.

This Act may be cited as the “Sustainable Chemistry Research and Development Act of 2014”.
