

Joint Board-Council Committee on Environmental Improvement 17-18 March 2018, New Orleans, LA

Vision: A sustainable world enabled
through the sustainable practice and use of chemistry.

Mission: Advance sustainability thinking and practice
across ACS and society for the benefit of earth and its people.

Website:

<http://www.acs.org/content/acs/en/about/governance/committees/cei.html>

Blog:

<https://communities.acs.org/groups/cei>

Social Media Links:

Twitter: @ACS_CEI

LinkedIn group: ACS CEI

Facebook: <http://www.facebook.com/ACSCFI>

UPCOMING MEETINGS

Date	Location	Meeting Theme (Chair)
Fall 2018, Aug. 18-19	Boston	Nanoscience, Nanotechnology, and Beyond (Paul Weiss)
Spr. 2019, Mar. 30-31	Orlando	Chemistry for New Frontiers (Mike Meador and Luke Roberson)
Fall 2019, Aug. 24-25	San Diego	Chemistry of Water (Elise Fox and Chris Avery)
Spr. 2020, Mar. 21-22	Philadelphia	Macromolecular Chemistry: The Second Century (Tim Lodge and Kris Matyjaszewski)
Fall 2020, Aug. 15-16	San Francisco	Chemistry from Bench to Market (Janet Bryant and Judy Giordan)
Spr. 2021, Mar. 20-21	San Antonio	TBD

The full tentative schedule of ACS National Meetings is available at the following website:

<https://www.acs.org/content/acs/en/meetings/national-meeting/about/future-meetings.html>

ATTENDANCE (Group photo in Appendix 1)

Members, Associates, Consultants, and Liaisons:

- ***In attendance:*** Tony Noce (Chair), Ray Garant (Staff Liaison), Kate Aubrecht, Chris Avery (Portfolio Manager), Marie Bourgeois, Ed Brush, George Cobb, Jetty Duffy-Matzner (ConC Liaison), Jurgen Exner, Jack Fowle, Elise Fox (Portfolio Manager), Robert Giraud, Jillian Goldfarb, Carol Henry, Keisuke Ikehata, John Jayne, Michael Matthews, Faye McNeill, Cathy Middlecamp, Sherine Obare (Portfolio Manager), Melissa Pasquinelli (Secretary), Keith Peterman, Barclay Satterfield (Portfolio Manager), Paul Schorr, Susan Shih (SOCED Liaison), Peter Smith, Jennifer Tanir, Jane Wissinger
- ***Excused:*** Michelle Brann (YCC Liaison), Katie Hunt

ACS Staff: David Constable (GCI), Jennifer MacKellar (GCI), Carl Maxwell (EAC)

Guests: Bill Carroll, Chair of the GCI Advisory Board; Brandi Neifert, ACS Public Policy Associate; Sue Morissey, ACS Communications; Sara Orski, Councilor from Chemical Society of Washington

APPROVAL OF INTERIM ACTIONS

As our first order of business, the Committee voted by voice to *certify the interim actions of approving the minutes of the 19-20 August 2017 meeting of the Committee in Washington, D.C., and approving the local section mini-grant from Blue Ridge of Virginia.*

MOTIONS

- The Committee voted by voice to *fund the Local Section Sustainability Activity Grant Proposal from the Savannah River Local Section.* (One abstention: Elise Fox)
 - Tony Noce appointed Elise Fox to serve as liaison to this local section for this mini-grant.
- The Committee voted by voice to *fund the Local Section Sustainability Activity Grant Proposal from the New York Local Section.* (One abstention: Kate Aubrecht)
 - Tony Noce appointed Faye McNeill to serve as liaison to this local section for this mini-grant.

PROJECT WORK

The committee spent some time on Saturday afternoon and Sunday morning working in project teams according to the following schedule:

Saturday, March 17	Sunday, March 18
2:15 p.m. – 3:15 p.m.	9:15 a.m. – 10:10 a.m.
Local Section Engagement (Mike Matthews)	Supply Chain Sustainability Workshop (Jennifer Tanir)
CPT Supplement (Jennifer MacKellar)	Fall 2019 Meeting Programming (Chris Avery and Elise Fox)
Fracking Statement (George Cobb)	Climate Toolkit (Faye McNeill)
Water Statement (Robert Giraud)	Synthetic Biology Fact Sheet (Carol Henry)

EXECUTIVE SESSION ON GOAL 1 (Sunday 11:00 – 11:30 am)

The current portfolio dashboard and project updates for Goal 1 are given in *Tab 7 of the Agenda Book*. Additional discussions and updates on particular projects are given below, and other project items such as minutes or slides are given in *Appendix 2*.

GOAL 1: Engage key researchers, industry decision makers, and consumers to incorporate sustainability into their practice and use of chemistry.			
Strategy		Lead	Report
1.1.2016	Programming strategic planning	Middlecamp and Tanir	2019 is the International Year of the Period Table of Chemical Elements. Jennifer Tanir is now a member-at-large for MPPG. CEI nominated 2 people for the Kavli lecture; the winner is still being chosen. The spring 2019 National Meeting will be in Orlando, Florida (March 31 - April 4, 2019). Theme: Chemistry for New Frontiers, which includes the sub-themes of aerospace, medicine & health, energy, and

			<p>agriculture & food. The two theme co-leaders, Luke Roberson and Michael Meador, work at NASA.</p> <p>Also reminder that PacifiChem is in 2020 and that symposium proposals are due in three weeks.</p>
1.2.2016	Supply chain sustainability workshop	Satterfield and Tanir	Will be held during GC&E in June; eventual goal is for a report on the workshop.
1.3.2016	Communications	McNeill	Please remember to send Faye items that can be pushed out through social media.
1.4.2016	PISCES (industrial activities)	Hunt (presented by Exner)	ENVR is establishing an Industrial Advisory Board who can help with planning symposia of interest to industry at both National and Regional meetings.
1.5.2016	Film series	Obare	<p>(Kate, Mike, Keith, Cathy, Barclay, Susan)</p> <p>Reimagining the film series. Why? (1) Minimum engagement during the film itself, (2) SOCED reconsidering its award, and (3) No need to be at the National meeting to watch the movie.</p> <p>New Directions goals: (1) engage student chapters to have a production, in collaboration to their visual and performing arts departments focused on an environmental issue; (2) engage local sections to engage with student chapters; (3) Platform to showcase the student-produced movie and have movie producers there similar to The Voice.</p> <p>Needs and logistics: Clear guidelines, expectations, timeline, deadlines, and publicity. Also mechanisms for submission of film, evaluating film, and award process.</p> <p>The goal is to engage the public in the enthusiasm for science.</p> <p><i>(See minutes and slides that are also given in Appendix 2.)</i></p>
1.6.2017	U.N. Sustainable Development Goals	Brush	<i>See minutes in Appendix 2.</i>

EXECUTIVE SESSION ON GOAL 2 (Saturday 4:00 – 5:00 pm)

The current portfolio dashboard and project updates for Goal 2 are given in ***Tab 8 of the Agenda Book***. A general discussion was done on policy statements in general, and how we need to keep in mind both domestic and global perspectives, although the emphasis is intended to be domestic. Additional discussions and updates on particular projects are given below.

GOAL 2: Equip ACS members and advocates to be influential voices about policies in sustainable chemistry via development of appropriate tools for the relevant audiences.			
Strategy		Lead	Update
2.1.2016	Government Relations	Fox	Did a D.C. fly-in last month to meet with key constituents around the Energy statement.
2.2.2017	Energy Policy Statement	Jayne	9 people on the team, 3 from CEI, 3 from ComSci, 2 from CCPA, 1 from CA, and 1 from Division of Energy and Fuels. It is expected to be a revision rather than a complete re-write. First draft will be done before Boston meeting.
2.3.2017	Hydraulic Fracturing Policy Statement	Cobb	Being led by former CEI member, Emily Grumbling from ComSci. Someone from the GCI Roundtable will also assist.
2.4.2018	Climate Toolkit	McNeill	<i>(No report.)</i>
2.5.2017	Water Treatment and Conservation Policy Statement	Giraud	Changed the title to “Access to Safe Drinking Water” but the content focus has not changed much other than not including much about the role of agriculture. It was proposed that maybe we make a separate statement just on water and agriculture. The team plans to have a draft ready by Boston meeting.
2.6.2017	Inherently Safer Technologies Policy Statement	Weber	The thought is to suggest for it to be renewed with only minor grammatical edits.
2.7.2016	Synthetic Biology Programming and Fact Sheets <i>(renamed from GMO programming)</i>	Henry	Fact Sheets: Drafts are in progress for review by CEI at the August Meeting in Boston. Programming: In collaboration with Kristin Omberg of the Presidential Symposium Subcommittee, a symposium on Synthetic Biology has been arranged and accepted by ACS; 13 outstanding leaders in the field have agreed to speak and abstracts have been submitted for a Presidential Symposium at the Boston Meeting.

EXECUTIVE SESSION ON GOAL 3 (Sunday 10:15 – 10:45 am)

The current portfolio dashboard and project updates for Goal 3 are given in **Tab 9 of the Agenda Book**. Additional discussions and updates on particular projects are given below, and other project items such as minutes or slides are given in *Appendix 2*.

GOAL 3: Engage networks of chemists and citizens to advance sustainability education and communication.			
Strategy		Lead	Update
3.1.2017	Fall 2019 ACS National Meeting Theme	Avery, Fox	<i>(See section below and slides in Appendix 2.)</i>

3.2.2016	CPT guidelines	(presented by Wissinger)	<p>CPT has approved the supplement on Green and Sustainable Chemistry at this meeting. It includes (1) case for inclusion through interdisciplinary and systems thinking approaches, (2) conceptual topics for instructor framing, and (3) practical examples for easy adoption.</p> <p>The action plan going forward: (1) presentations at ACS New Orleans, ACS Boston, GC&E, and BCCE; (2) exploring having a special edition in JChemEd; and (3) continue to work with CPT to promote the supplement and explore if it can be a more integral part of the 2020 guidelines.</p> <p>Ray will also link to this CPT supplement on our CEI website.</p>
3.3.2016	COP kids	Peterman	<p>COP23 in Bonn, Germany was successful, although there was very little U.S. government presence there; the applications for COP24 is open now. ACS Symposium Series focused on these visits (volumes 1 and 2) are available, and a third volume is in the works. Students have helped to write the chapters.</p>
3.4.2016	Curriculum award	Obare	<p>Challenge: visibility and reaching the broad chemistry community. We need access to a strong communication outlet to broaden award visibility: local sections, chemistry departments, ACS-related conferences, environmental groups beyond ACS, and even a revamped website. We also need to re-evaluate what the award is supposed to accomplish, and how we use the material that is generated by the award winners and giving them a broad platform; maybe hosting a teacher workshop at each meeting.</p> <p><i>(See also minutes given in Appendix 2.)</i></p>
3.5.2016	Local section outreach	Matthews	<p>The team discussed the lack of applications for both the mini-grants and Chemluminaries, and discussed strategies for improving that: (1) be more proactive about announcing the mini-grants and Chemluminaries through social media; (2) targeted communications to local sections and district directors; and (3) advertising at the Leadership Institute.</p> <p>As part of our August meeting, it was suggested that we have a further discussion on the purpose of the Chemluminary award, and maybe review the previous winners.</p>

			<p>The Committee reached a consensus to not award a Chemluminary at the Boston Meeting. Tony Noce appointed Mike Matthews to reach out to the Midland section regarding the requirements for the award.</p> <p><i>Also see motions given above.</i></p>
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DISCUSSION OF FALL 2019 THEME PROGRAMMING (3.1.2017)

- Subthemes: (1) People and Water, (2) Land and Water, and (3) Water's Effect on Chemistry
- Four Goals:
 - (1) Showcase water-related work in the broader chemistry community: working with divisions and committees, as well as presidential candidates.
 - (2) Highlight connections between broader social issues and chemistry: identify at least one water-related charity that we can partner with to raise at least 35K; finalists are Charity Water and Water.Org. Also plan to add a line item in meeting registration to donate to clean water projects (currently approved but will be finalized when charity is selected).
 - (3) Partner with Organizations: Desalination tour, programming around advocacy, policy, or social justice and identify champions and speakers in this area; also programming around a high-profile speaker(s) for the ACS dinner and/or a Presidential Gala on water issues.
 - (4) Post-meeting impacts: Partnership with ACS Communications to create digital materials that can be distributed both during and after meeting; ACS live Facebook events; produce podcasts interviews with featured speakers, researchers, etc. Potentially run several different communications and media competitions.
- Stretch Goals:
 - (1) Subsidize a 'charity row' at the Expo, to solicit volunteers and seek out benefits for water-related charities
 - (2) Beef up movie event: invite director to a panel event; rent out a movie theater, and make it a more significant event; sell tickets as another donation to charity.
 - (3) Seek out partners to host meetings at the ACS meeting: Association of water authorities, meeting space for a non-profit, CA governmental water-related organization
 - (4) Identify high profile policy and activism speaker on water rights for the plenary lecture
 - (5) Swag! Maybe Swell bottle. Could be co-branding, maybe partnership with Millie Mole program

REPORT FROM EXTERNAL AFFAIRS AND COMMUNICATIONS (EAC)

Carl Maxwell and Brandi Neifert provided a verbal summary and a written report in **Tab 5 (pages 5-1 to 5-14)**. Specific items that were highlighted include (slides also given in *Appendix 3*):

- Nothing is settled regarding the budget; it's still on continuing resolution. In terms of science funding, significant cuts are expected, except for DARPA and NIH.
- Senate Committee passes the House DOE Science bill.
- Wind, solar, and electric vehicle tax credits mostly preserved in HR 1.
- NASA and NOAA nominees have been stalled, Michael Dourson's nomination to run Chemical Safety and Pollution Prevention has been withdrawn.
- 4th Annual Climate Assessment released.
- Future of IRIS is in question.

- Change in EPA Scientific Advisory Board policy that makes recipients of EPA grants ineligible for service.
- **How ACS Policy Statements are Developed:** Policies are on a 3-year cycle; try to keep high-level so adjustments do not have to be made regularly. There is a PR plan around each one. Currently, there are 28 active in 4 priority tiers. CEI's role on each statement for which we are affiliated is to generate a draft that then goes to Public Affairs and Public Relations (PA&PR), which is delegated by the Board.

REPORT FROM THE ACS GREEN CHEMISTRY INSTITUTE (GCI)

Jennifer MacKellar and David Constable provided a report on the highlights of ACS Green Chemistry Institute® (ACS GCI) activities since their last report to CEI. Please see **Tab 5 (pages 5-15 to 5-20)** of the agenda materials for more details. Specific items that were highlighted include (*slides are also given in Appendix 3*):

- 22nd Annual Green Chemistry and Engineering Conference, June 18-20, 2018 in Portland, OR:
 - Theme for meeting is Product Innovations Using Green Chemistry
 - Innovative Programming: 6 sessions designed to engage GC&E's highly interdisciplinary attendees to discuss and debate challenges and opportunities
- 23rd Annual GC&E conference: June 11-13, 2019 in Reston, VA
 - Theme: Closing the Loop
 - Will be a joint international meeting with GSC-9
- Systems thinking in chemistry: it's all connected
 - Disrupt Design Institute
 - IUPAC Task Force: Learning Systems, Chemistry Learning, and Earth & Societal Systems.
- Collaborations and Opportunities
 - Safety: Greener chemistry is safer chemistry; will be joint programming and maybe thematic issue in JChemEd
- Pharmaceutical Roundtable (PR)
 - Focus on collaborating globally; focusing on India and China
 - 2 ignition grants, and 3 established grants, awarded in October 2017
 - 3 new reagents guides made available to public, and 4 new ones added for members only.
 - Successful transfer of CHEM21 website (<http://learning.chem21.eu>) to ACS.
- Chemical Manufacturing (ChMR)
 - AltSep project: organized 5 successful workshops on alternative separations. Workshop reports will be translated into a series of journal articles.
 - Biomass Conversion project: preparing a white paper discussing major challenges and opportunities facing the bio-based industry today. Will host a session at GC&E 2018.
- Biochemical Technology Leadership (BTLR)
 - Mostly startup companies
 - Discussions about synthetic biology and appropriate metrics to assess the sustainability of bio-based and renewable feedstocks and conversion processes
- Hydraulic Fracturing (HF)
 - Rejuvenated and currently a lot of enthusiasm, participation, and support.
 - Project: Look into the potential use of enzymes to break up biofilms and as a means of reducing the quantity of biocides.
- Formulator's Roundtable
 - Continue to discuss expansion of the roundtable into first-tier suppliers

OTHER REPORTS

- **From Bill Carroll:** GCI Board changed from governing to advisory. Act more like internal consultants. Will still have staff reports, etc. but foster discussions. Will also discuss what GCI takes on in the context of other entities, such as CEI. Green chemistry is a philosophy and ‘filter’ for how one sees things, akin to safety, and thus partnerships with safety folks.
- **Committee on Committees (ConC) (Duffy-Matzner):** *(Slides are in Appendix 3.)* The committee appointment process was described. A reminder that the ACS Yellowbook information should be updated; committee preference form is also now available. A suggestion was made to add to the Yellowbook the succession plan for program chairs in each Division.
<http://www.yellowbook.acs.org>

NEW BUSINESS

- *(None)*

ADJOURNMENT

The meeting adjourned on Sunday, 18 March 2018 at 11:52 a.m.

This document completes the Minutes of the Executive Session of Joint Board-Council Committee on Environmental Improvement for 17-18 March 2018 in New Orleans, LA.








Respectfully submitted,
Melissa A. Pasquinelli
Secretary

Appendix 1—Photos



Appendix 2—Other Project Team Minutes and Presentations

1.5.2016: Film Series

<p style="text-align: center;">Re-Imagining the Environmental Film Series</p> <p style="text-align: center;"><i>Committee on Environmental Improvement</i></p> <p style="text-align: center;">Committee Members Sherine Obare Kate Aubrecht Michael Matthews Keith Peterman Cathy Middlecamp Barclay Satterfield Susan Shih</p> 	<p>Past Challenges</p> <ul style="list-style-type: none">• Movie shown at the National meeting. However, students can watch that movie at any time.• Minimum engagement or benefit to the students:<ul style="list-style-type: none">• Discussion by the panelists• Meeting the movie director• Collaboration with SOCED who is re-thinking the award 
<p>New Directions</p> <ul style="list-style-type: none">• Engage student chapters to have a production in collaboration with their visual and performing arts departments focused on an environmental issue.• Engage Local ACS Sections to participate in working with students to ensure a good production that has an Environmental theme.• Benefit to Chemistry students: Learn how to better communicate their work to a broad audience. Broadening their portfolio.• Benefit to the Arts students: Learn how to better communicate science and delve into an area they typically would not work on. ACS recognition is a benefit.• Benefit to the faculty and students in both areas regarding their portfolios in science education.• Benefit to CEI – (1) engaging students; (2) CEI will have a product that can be showcased on a global level focused on an environmental issue. 	<p>Needs and Logistics</p> <ol style="list-style-type: none">1. Clear guidelines, expectations, timeline and deadlines2. Clear channels of communication that reach a broad network (national ACS – C&EN; AAC&U; larger ACS social media outlets)3. A platform to showcase the student-produced movie.4. At the showcase – have movie producers similar to what is done with The Voice where producers pick a film to work with.5. Mechanisms are needed for: (a) Submission of the film, (a) evaluating the film, and (3) the award process – all part of the guidelines.6. Funding7. Local section involvement to work with student chapters. We need to incentivize them through the award program. 
<p>Goal for Fall 2019 National Meeting</p> <ul style="list-style-type: none">• Connect with UC-San Diego Department of Chemistry & Biochemistry to determine their interest and if they would like to be a pilot for the San Diego 2019 meeting.• Three mini-films will be produced focused on:<ul style="list-style-type: none">• People and water• Land and Water• Water effect on Chemistry• Need a platform for them in San Diego – to be presented at the theater.• Make this a ticketed event (?)• Additional (external to CEI) members to serve on the planning process <p style="border: 1px solid orange; padding: 2px; display: inline-block;">A finalized plan with details of the logistics for Fall 2019 will be presented in Boston</p> 	<p>Other Ideas</p> <ul style="list-style-type: none">• Yale Drama School• Northwestern University• University of Southern California• Alan Alda Center for Communicating Science• Create materials/products that will last after the conference• Digital Communications• Film• Theater• Three-minutes thesis idea 
<p>ACS Award for Incorporation of Sustainability in Chemical Education</p> <ul style="list-style-type: none">• Challenge – visibility, reaching the broad chemistry community• Need - Access a strong communication outlet to broaden award visibility: local sections, CHEM departments, ACS-related conferences, reaching out to environmental groups beyond ACS (Gordon conference, SNO, EuCheMs, IUPAC, BCCE, etc.)• Website needs to be revamped!!!• Goal - What is the award suppose to accomplish – how do we use the material generated by the award winners and giving them a broad platform?<ul style="list-style-type: none">• Example (pilot): Teacher workshop (need to make connections early). 	

Sub-Committee Members

- Sherine Obare
- Kate Aubrecht
- Michael Matthews
- Keith Peterman
- Cathy Middlecamp

Past Challenges

- Movie shown at the National meeting. However, students can watch that movie at any time.
- Minimum engagement or benefit to the students:
 - Discussion by the panelists
 - Meeting the movie director
 - Collaboration with SOCED who is re-thinking the award

New Directions

- Engage student chapters to produce a movie in collaboration with their visual and performing arts departments
- Benefit to **Chemistry** students: Learn how to better communicate their work to a broad audience. Broadening their portfolio.
- Benefit to the **Arts** students: Learn how to better communicate science and delve into an area they typically would not work on. ACS recognition is a benefit.
- Benefit to the faculty and students in both areas regarding their portfolios in science education.
- Benefit to CEI – engaging students; having a product that can be showcase on a global level regarding an environmental issue

What is needed?

- Clear guidelines, expectations, timeline and deadlines
- Work with Alan Alda center at SUNY Stony brook
- Clear channels of communication that reach a broad network (national ACS – C&EN; AAC&U; larger ACS social media outlets)
- Help through a person training in media relations.
- A platform to showcase the student-produced movie.
- At the showcasing – have movie producers similar to what is done with **The Voice** where producers pick a film to work with.
- Mechanisms are needed for: *Submission of the film, evaluating the film and the award process.*
- Funding
- Local sections to work with student chapters. We need to incentivize them through the award program.

Goals for 2019 ACS National meeting

- Connect with UC-San Diego Department of Chemistry & Biochemistry to determine their interest and if they would like to be a pilot for the San Diego 2019 meeting.
- We need three mini-films focused on:
 - People and water
 - Land and Water
 - Water effect on Chemistry
- Need a platform for them in San Diego – to be presented at the theater
- Make this a ticketed event (?)
- Additional (external to CEI) members to serve on the planning process

Areas for the Committee to connect with for Support and Collaboration:

- Yale Drama School

- Northwestern University
- University of Southern California
- Alan Alda Center for Communicating Science
- Create materials/products that will last after the conference
- Digital Communications
- Film
- Theater
- Three-minutes thesis idea

1.6.2017: Sustainable Development Goals

CEI Project (1.6.2017): UN Sustainable Development Goals for the Chemistry Enterprise: Challenges & Opportunities (Brush & Wissinger)

Background. Chemists are aware of the unintended consequences of chemicals on human health and the environment, and the inequities in exposure to hazardous chemicals based on gender, age, race and socio-economic status. This violates our definition of environmental justice where all people have the right to live, work, play and learn in healthy, safe environments. Green Chemistry provides proven, innovative technologies for reducing or eliminating the use and generation of hazardous chemicals and chemical products. Correcting these disparities may be an unexpected benefit of green chemistry.

Discussions on this topic started in 2016 at ACS and Green Chemistry & Engineering conferences, resulting in engaging discussions, but primarily among academics. We have a challenge in bringing the topic of social equity and environmental justice to the ACS CEI which has wide-ranging collaborations and stakeholders both in- and outside of ACS. CEI projects go across the chemistry enterprise. In follow-up discussions after the CEI meeting at the 2017 ACS-DC meeting, it became apparent that there was some uneasiness in conducting CEI work with a vision that is: (1) focused on equity and environmental justice, (2) does not make strong connections to science and innovation, and (3) does not engage a broader group of stakeholders.

New Strategy: UN Sustainable Development Goals for the Chemistry Enterprise: Challenges & Opportunities

On September 25th 2015, governments, businesses and civil society together with the United Nations adopted a set of 17 goals as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years. The Agenda calls for action by all countries to improve the lives of people everywhere by ending poverty, protecting the planet, and ensuring prosperity for all. The 2016 International IUPAC conference declared that green chemistry technologies are a contributing element of sustainable development, touch many aspects of the environment and human welfare (rights), and are relevant to the 17 SDGs.

The SDGs are an avenue to link green chemistry technologies with human rights, social equity and environmental justice. By necessity, collaboration between educators, researchers, policy makers, and industries will “build innovative solutions that transform and strengthen the chemical enterprise while addressing environmental and social challenges.” (Marteel-Parrish and Newcity, 2017).

Proposed Goal: To link the chemistry enterprise to the SDGs that rely on the three traditional sustainability domains (environmental, economic and socio-cultural), and green chemistry contributing the domains of technology and public policy (Marteel-Parrish and Newcity, 2017).

Opportunities (under construction!). The CEI is well positioned to lead this project:

- Engage key researches, industry decision makers, and consumers to incorporate sustainability into their practice and use of chemistry. [ACS Policy Statement: Sustainability and the Chemical Enterprise 2017]
- Expand ACS impact as an international organization, and collaborate with sister organizations.
- Opportunity to build bridges and make new partnerships in US and abroad.
- Make connections via Systems Thinking and Molecular Design.
- Green Chemistry has produced cutting edge/innovative technologies with economic benefits or impacts
- Medicines and pharmaceuticals (benefit developing countries with technology limitations; cost accessibility)
- Workforce development: Expand STEM pipeline, resulting in a more diverse and inclusive workforce to correct disparities, and prevent new ones from happening.
- Equity of SDGs and chemistry role:
 - Distribution and use of resources
 - Accessibility to education, natural resources, accurate information
 - Protection of humans and environment

Working Group Discussion Topics:

- **2018 ACS-NOLA Work Plan:**

- Review 2017 notes from ACS-DC
- Discuss new focus on SDGs/innovative technology/human rights narrative: compliment, distraction, dilution, etc.
- Discuss goals, objectives
- Develop, prioritize, assign action items

- **Activities explored since ACS-DC:**

- BSU Environmental Symposium (November 2017) had a theme of “Systems Thinking. Our guest speaker, Dr. Linda Booth Sweeney (Ed. D.), gave a talk on “Connect the Dots, Change the Game - Systems Design for Sustainable Futures”. She also ran an interactive exercise with the audience on Systems Thinking and SDGs, using 17 SDG cards and “wikki sticks”. A similar activity could involve the 12 Principles of Green Chemistry.
- Advanced Environmental Chemistry – Green Chemistry (BSU CHEM 489): Class explored connections between SDGs and 12 principles of green chemistry; included SDGs as a metric in evaluating chemical processes or products.

- **Identify resources (post to Google docs):**

- Education
- List of web sites and Twitter feeds
- UN SDGs
- Publications:
 - Lasker, et.al., “Social and Environmental Justice in the Chemistry Classroom” (2017), [J. Chem. Educ., 2017, 94 \(8\), pp 983–987](#)

- Anne Marteel-Parrish and Karli M. Newcity (2017) “Highlights of the Impacts of Green and Sustainable Chemistry on Industry, Academia and Society in the USA”, [Johnson Matthey Technol. Rev.](#), **61**, (3), 207–221.
 - “An Agenda to Mainstream Green Chemistry” - Green Chemistry & Commerce Council, Joel Tickner, Director (2015) (https://greenchemistryandcommerce.org/documents/An_Agenda_to_Mainstream_Green_Chemistry.pdf)
 - Other?
- **Questions to consider:**
- Economic benefits or impacts. How can these be quantified. Examples (cutting carbon intensity, etc.)
 - Cutting edge/innovative technologies (Presidential green chemistry awards) – we heard these were discontinued.
 - Medicines and pharmaceuticals. How benefit developing countries; technology limitations; cost accessibility
 - Workforce development:
 - Expand STEM pipeline
 - More diverse and inclusive workforce to correct disparities, and prevent new ones from happening.
 - Equity of SDGs and chemistry role:
 - Distribution and use of resources
 - Accessibility to education, natural resources, accurate information
 - Protection of humans and environment
 - Making connections to Systems Thinking and Molecular Design
- **Strategy I** - For each *SDG consider the following from science context (Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis:
- Identify the problem from a chemistry perspective
 - Chemistry and green chemistry relevance
 - Economic impact
 - Examples
 - Innovative technology
 - Innovative science
- **Strategy II** - Examine current technologies and map to the SDGs (i.e., the SDGs are a metric) – SWOT
- **SDGs focus on human rights.** We need to examine and compare human rights language in ACS, ACC, EPA, etc.
- **Dissemination (creating new resources):**
- Google docs
 - Connect with Fall 2019 ACS meeting in San Diego “chemistry of water” (Identify speakers; Cross ACS programming focused on innovative technology)
 - Green Chemistry & Engineering, Portland, OR, June 2018:
 - Monday afternoon Symposium with Grace Lasker, speakers and 40 minute interactive discussion on SWOT

- Tuesday evening BYOD workshop to discuss select topics, including SDGs
 - Solicit abstracts for Boston and future ACS meetings through GCT&P symposium; Focus on 2-3 goals each conference; compile/write up findings
 - Connect with ACS HS program
 - Nexus
 - J Chem Ed (not limited to education project)
 - Develop a list of “talking points” and “elevator speech”
- **Other collaborators and stakeholders:**
 - ACS committees/organizations
 - GCI round tables
 - Younger chemists (scientists) committee (YCC) who can “make a difference” through chemistry and green chemistry
 - Environmental justice community
 - STEM educators
 - Industries involved in the design and production of chemicals and chemical products
 - End users of these products - consumers
- **Additional stakeholders and collaborators:**
 - Joel Tickner
 - Robert (Bob) Giraud
 - David Constable
 - Rotary International (Fall 2019 ACS)
 - Ean Warren (USGS)
 - Critical Materials Institute
 - Green Chemistry & Commerce Council
 - Peter Mahaffey - OPCW
 - Chemists without Borders
 - PISCES (CEI Committee) – Partnering to integrate sustainability into the chemical enterprise strategically

*SDG - <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

1. No poverty 2. Zero hunger 3. Good health and well-being 4. Quality education 5. Gender equality 6. Clean water and sanitation, 7. Affordable and clean energy 8. Decent work and economic growth 9. Industry, innovation, and infrastructure 10. Reduced inequalities 11. Sustainable cities and communities 12. Responsible consumption and production 13. Climate action 14. Life below water 15. Life on land 16. Peace, justice, and strong institutions 17. Partnerships for the goals.

<p>American Chemical Society</p>  <h2>Chemistry of Water</h2> <p>Organizers: Chris Avery & Elise Fox</p> <p>258th American Chemical Society National Meeting & Exposition August 25-29, 2019 San Diego, California</p>	 <h3>Theme Synopsis</h3> <ul style="list-style-type: none"> We have identified 3 subthemes to organize work around: <ol style="list-style-type: none"> 1) People and Water 2) Land and Water 3) Water's Effect on Chemistry. The subthemes will be how we organize and categories all the topics, research, and other work we do to flesh out the broader programmatic theme. <p>American Chemical Society 2</p>
 <h3>Goals and Connections to CEI</h3> <p>All of this work is intended to connect back to the broader work/topics of interest of the Committee on Environmental Improvement, our sponsoring committee.</p> <p>Goals</p> <ol style="list-style-type: none"> 1. Showcase water-related work in the broader chemistry community 2. Highlight connections between broader social issues and chemistry 3. Partner with organizations not typically engaged with the scientific community 4. Create materials that last after the meeting is over <p>American Chemical Society 3</p>	 <h3>Goal: Showcase Water-Related Work</h3> <ul style="list-style-type: none"> Encourage every Division and Committee to push programming in this area. Meet with Programming Committees of Divisions to discuss planning. <ul style="list-style-type: none"> Current Status: <ul style="list-style-type: none"> We have emailed every division lead requesting programming for the theme and offering support of it. Response has been limited to date We will follow up again post-meeting and regularly from now on Reached out to Presidential candidates to encourage them to have the thematic theme as part of their presidential meeting plans <p>American Chemical Society 4</p>
 <h3>Goal: Highlight Social Connections</h3> <ul style="list-style-type: none"> Identify at least one water-related charity we can partner with <ul style="list-style-type: none"> Potential charities: Finalist are Charity:Water and Water.org. Add line item in meeting registration to donate to clean water projects <ul style="list-style-type: none"> Current Status: approved Once charity is selected, ACS will vet and finalize <p>American Chemical Society 5</p>	 <h3>Goal: Partner with Organizations</h3> <ul style="list-style-type: none"> Programming: Organize at least one session on advocacy, policy, or social justice and identify champions and speakers in this area Desalination tour <ul style="list-style-type: none"> Carlsbad Desalination Plant regularly gives public tours. We have reached out to them to open dialogue, and there is initial interest in setting this up. This will require a sponsor or funding to cover the transport of participants to the Plant (~1 hr drive north of San Diego) Programming: High profile speaker(s) for the ACS dinner and/or a Presidential Gala on water issues <ul style="list-style-type: none"> Ideas include Bill Gates, CA Governor, CEO of major international corporation such as Stella Artois, Matt Damon <p>American Chemical Society 6</p>

Goal: Post-Meeting Impacts



- Partnering with ACS Communications to create digital materials that can be distributed during and after the Meeting
 - Current ideas:
 - ACS could host multiple Facebook live events focusing in guest speakers, researchers, governance people, etc
 - ACS can produce several podcast interviews with featured speakers, researchers, etc
 - ACS can run several different communications and media competitions.
 - Current ideas include:
 - Reviving the Chem Charms competition
 - A water-chemistry photo competition
 - This will incorporate social media and broader community engagement (including outside of those physically attending the meeting)
 - Current Status:
 - ACS Communications is talking through all of this with us, and is already piloting some of these ideas at the New Orleans meeting!

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Stretch Goals: Additional Plans/Goals/Dreams



- Subsidize a "charity row" at the Expo, to solicit volunteers and seek out benefits for water-related charities
 - *Would need a financial supporter for this*
- Beef up the movie event
 - Invite director to a panel event
 - Rent out a movie theater, make it a more significant event
 - Sell tickets as another donation to charity
- Seek out partners to host meetings at the ACS Meeting
 - Association of water authorities (Denver Water, Southern Nevada Water Authority, etc)
 - Meeting space for a non-profit
 - California governmental water-related organization

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Stretch Goals con't: Additional Plans/Goals/Dreams



- Identify high profile policy and activism speaker on water rights. This can be the plenary lecture (possibly before the Kavli lecture) - shoot for the moon
- Swag!
 - We would like to have a high quality (water-related) giveaway that will not end up in the trash, ex. Swell bottle.
 - Could it be used as an incentive to attend the plenaries or other events?
 - Could we collaborate w/ the Millie Mole people for a hunt prize, for example?

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<p>American Chemical Society ACS Green Chemistry Institute®</p> <p>ACS Chemistry for Life™</p> <h3>Green Chemistry Supplement to ACS CPT Guidelines for Bachelor's Degree Programs</h3> <p>Progress Report to CEI New Orleans, LA March 18, 2018</p> <p>Working Group: Kate Aubrecht, Marie Bourgeois, Ed Brush, Jennifer MacKellar, Jane Wissinger</p>	<p>ACS Chemistry for Life™</p> <h3>Outline</h3> <ul style="list-style-type: none"> • Review of project objectives • Action items since ACS Fall 2017 • Modified supplement for CPT Committee approval • Plans for dissemination/promotion of CEI supplement content <p>American Chemical Society ACS Green Chemistry Institute®</p>
<p>ACS Chemistry for Life™</p> <h3>ACS CPT Supplement on Green Chemistry</h3> <ul style="list-style-type: none"> • Committee on Professional Training (CPT) establishes criteria for approval of baccalaureate chemistry program for ACS certification. • Green/sustainable chemistry is currently (2015) included as: <ul style="list-style-type: none"> ❑ 5.4-In-Depth Course Work <i>The Committee encourages programs to integrate modern topics in chemistry such as catalysis, environmental chemistry, green/sustainable chemistry, materials science, and toxicology into the in-depth courses.</i> ❑ 7.6 Ethics <i>"The curriculum should expose students to the role of chemistry in contemporary societal and global issues, including areas such as sustainability and green chemistry."</i> <p>https://www.acs.org/content/dam/acsorg/about/governance/committees/training/2015-acsguidelines-for-bachelors-degree-programs.pdf</p> <p>American Chemical Society ACS Green Chemistry Institute®</p>	<p>ACS Chemistry for Life™</p> <h3>ACS CPT Supplement on Green Chemistry</h3> <ul style="list-style-type: none"> • Purpose: Develop a green and sustainable chemistry supplement to the ACS Guidelines to emphasize its importance in training future chemists • Supplement: Optional guidance document for educators in ACS programs to aid in integration of green and sustainable chemistry concepts throughout curriculum <ul style="list-style-type: none"> ❑ Case for inclusion through interdisciplinary and systems thinking approaches ❑ Conceptual topics for instructor framing ❑ Practical examples for easy adoption <p>American Chemical Society ACS Green Chemistry Institute®</p>
<p>ACS Chemistry for Life™</p> <h3>Timeline of Supplement Progression</h3> <ul style="list-style-type: none"> • CPT Working Group Modifications <ul style="list-style-type: none"> ❖ 2920 → 2125 words ❖ Context trimmed ❖ Subdiscipline introductory paragraphs incorporated into illustrative examples <p>American Chemical Society ACS Green Chemistry Institute®</p>	<p>ACS Chemistry for Life™</p> <h3>CEI CPT Working Group Plans</h3> <p>Sharing: Green chemistry: Preparing students to meet the grand challenges of sustainability</p> <p><u>National Meetings</u></p> <ul style="list-style-type: none"> March 2018 - ACS NOLA June 2018 - Green Chemistry & Engineering Conference July 2018 - Biennial Conference on Chemical Education August 2018 - ACS Boston <p>American Chemical Society ACS Green Chemistry Institute®</p>

CEI CPT Working Group Plans




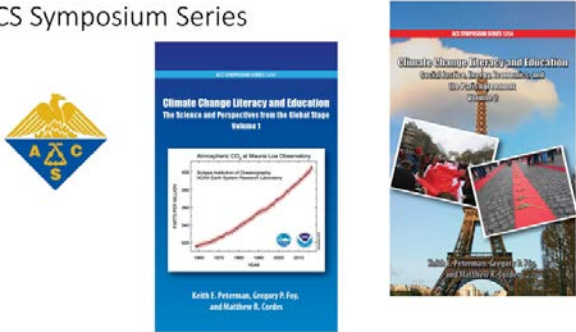


Sharing: Green chemistry: Preparing students to meet the grand challenges of sustainability

Journal of Chemical Education Special Edition (Issue)

- Green & sustainable chemistry: a systems thinking approach to chemistry
- There has never been a **special edition** dedicated to topic – it's time!

CEI CPT Working Group Future Plan

- Work closely with CPT to:
 - Promote the supplement
 - Explore if green chemistry can be a more integral part of the 2020 guidelines

 <p>No US Center</p>  <p>No NASA Hyperwall</p> <p>Official US Presence COP23 in Bonn, Germany</p> 	<p>We Are Still In</p> 
<p>ACS Students at COP23</p> 	<p>ACS Symposium Series</p> 
 <p>COP Project 2010 Kickoff Event</p> <ul style="list-style-type: none"> • Outcomes <ul style="list-style-type: none"> • Students on Climate Change Blog • Social Media Outreach • Symposia • International Student Summit • Symposium Series Books • Media Events • Needs <ul style="list-style-type: none"> • Funding 	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Become an ACS Student Representative to the United Nations Climate Change Conference in Katowice, Poland December 3 – 14, 2018</p> </div> <p>What is the UN Climate Change Conference? This conference is formally called the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP). The UNFCCC was created at the 1992 "Earth Summit" in Rio de Janeiro, with the ultimate aim of "preventing dangerous human interference with the climate system." The annual COP serves as the "supreme body" of the Convention with the "highest decision-making authority."</p>  <p>What is the purpose of this project? The purpose of this project is to promote climate literacy among college and university students by employing social media as a tool and the UN as a platform for education. "Climate Science Literacy and Education" is a key recommendation of ACS <i>Climate Change Public Policy Statement</i>.</p> <p>Who can participate? Any undergraduate or graduate student who is a student member of ACS can participate.</p> <p>How is the Project Funded? Participants must secure funding through their home institutions and other outside sources.</p>
	 <p>Can I receive academic credit for participating? Several previous students have received academic credit by linking this project to an internship, independent study, or project within a course. This is determined by you and your home institution.</p> <p>What is the deadline for applying? Applications will be accepted beginning March 15, 2018. The deadline for submission is June 15, 2018.</p> <p>How do I apply? Application procedures and additional information can be found at: http://faculty.ycp.edu/~gfoyl/ Click on: UNFCCC COP 24 Application</p> 

3.4.2017: Curriculum Award

Sub-Committee Members:

- Sherine Obare
- Cathy Middle Camp
- Kate Aubrecht

Updates from Spring ACS National Meeting 2018 on the ACS Award for Incorporation of Sustainability in Chemical Education

- Four award winners were recognized at the 2018 ACS National Meeting. The award winners included:
 - Professor Vicki Grassian (UC San Diego)
 - Professor Muhamed Hugerat
 - Professor Rachel Mamok
 - Dr. Jane Wissinger
- Anne Marteel Parish gave the keynote address
- For the first time, we invited high school teachers, with six who were able to join us (4 from the New Orleans area (supported by CHED) and two from Chicago IL (also supported by CHED). Teachers were provided with materials designed by some of the current and past award winners who will use this information for education.
- Information gained to strengthen this initiative: The teachers who attended stressed the need for this initiative to grow. In addition, CHED has a program that recruits teachers and we will collaborate with them to align efforts. However, recruitment of teachers requires careful coordination with the Office of the Superintendent and this must be done before the academic year begins. Therefore, we have already started plan for Orlando 2019.
- One of the challenges we have had has been visibility of the program reaching the broad chemistry community. To overcome this, in addition to the approach we used through the CEI social media outlet (only has 45-50 followers (which we did not realize until March 2018), we are working with ACS Communications to get the information spread. Division chairs, local sections, the ACS LinkedIn and ACS Facebook are now being used to advertise the award. All chemistry departments are also being contacted.
- Need - Access a strong communication outlet to broaden award **visibility**: local sections, CHEM departments, ACS-related conferences, reaching out to environmental groups beyond ACS (Gordon conference, SNO, EuChemS, IUPAC, BCCE, etc.)
- We would like to revamp the website. Sherine will contact Ray for further discussion.
- ACS books is working with us to produce a book as a product of CEI.

Appendix 3—Other Reports

External Affairs and Communications

Developing the ACS Public Policy Message

Brandi Neifert
Public Policy Associate
External Affairs & Communications
Office of the Secretary & General Council
b_neifert@acs.org

ACS Policy Statements

- Have a lifecycle of up to three years
- Are approved and prioritized by PAPR
- Provide the basis of the Society's public policy efforts
- Are intentionally high-level to allow the Society to respond to developing and changing issues

The ACS Public Policy Message

- Public Policy Priorities
- Public Policy Statements
- Letters, Press Releases, Advertising
- Coalition Positions

Public Policy Priorities

Addressing Challenges & Opportunities Through Scientific Innovation

- Foster Innovation through Research & Technology
- Strengthen Science Education & the Scientific Workforce
- Advance Sustainability & the Environment
- Science in the Public Policy Arena

ACS Policy Statements

- Observations & recommendations on specific policy matters
- Intended for policymakers
- Currently 28 active
- One paragraph to 5 pages
- Collectively represent the broad interests of ACS and our members as a unified agenda

ACS Policy Issues—2018

Tier 1 <ul style="list-style-type: none"> • Climate Change • Science Education • Science & Technology in the Budget • Scientific Insight & Integrity • U.S. Innovation & Entrepreneurship 	Tier 3 <ul style="list-style-type: none"> • A Competitive U.S. Business Climate • Freedom of Scientific Exchange • Healthcare • Sustainability & the Chemistry Enterprise • Teaching of Evolution • Visa Restrictions
Tier 2 <ul style="list-style-type: none"> • Chemical Risk Assessment & Regulations • Energy • Ensuring Access to High Quality Science • Peer Review • Safety in the Chemistry Enterprise • Water Treatment & Conservation 	Tier 4 <ul style="list-style-type: none"> • Charitable Donations • Disabilities • Employment Non-Discrimination • Endocrine Disruption • Forensic Science • Hydraulic Fracturing • Hands-on Science • Inherently Safer Technology (IST) • Intellectual Property

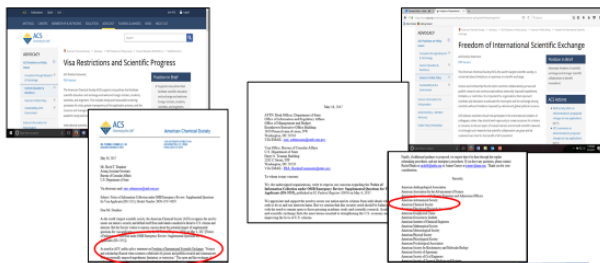
ACS Policy Statement Path to Legislation

Every Student Succeeds Act (2015)

Legislative language based on policy statement

Act4Chemistry alerts

A Recent Example: Supplemental Questions for Visa Applicants



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Draft to ACS Statement



Committees (or other ACS Units): PA&PR (delegated by Board):

- Recommends drafts to PAPER
 - Maintains policy expertise
 - Works with ACS EAC
 - Coordinates with other committees, divisions, etc
 - Helps advocate issues
 - Reviews statements every third year
- Approves, declines, or returns drafts for further work
 - Develops biennial ACS Public Policy Priorities
 - Provides overall guidance to committees
 - Leads statement reviews every third year

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Policy Development - 2018



Expiring Statements:

- Hydraulic Fracturing (ComSci, CCPA, CEI, CA)
- Water (CEI)
- Energy (CEI, CCPA, CA, ComSci)
- IST (CEI)
- Innovation (CCPA)
- Healthcare (CEPA)
- Disabilities (CWD)
- Lab Waste (CCS)

Developing Statements:

- Weaponization of Chemicals (ComSci, CA)
- Workforce-Related Immigration (CEPA, IAC, CCPA, CA, SOCED, ComSci)
- Synthetic Drugs (ComSci)

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See something.
Say something.

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Government Affairs Activities Update
Committee on Environmental
Improvement

American Chemical Society

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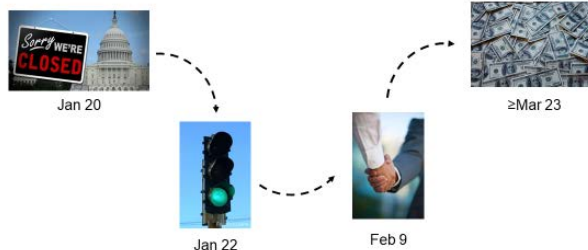
J. Carl Maxwell
Office of Public Affairs
March 17, 2018
c_maxwell@acs.org

BUDGET UPDATE

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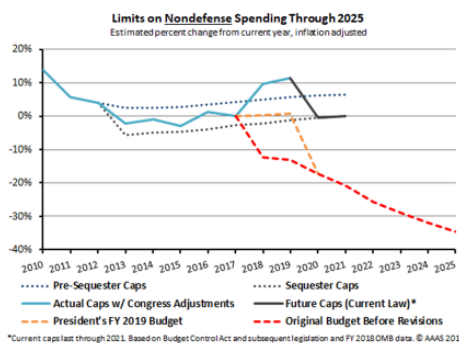
What is happening?



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The budget deal gives Congress more to spend 2018-2019



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Agency Budgets FY 2017-2019

Agency/Program	FY 2017 Enacted	FY 18 PBR	FY 18 Projected*	FY 19 PBR
Advanced Research Projects Agency-Energy (ARPA-E)	306	29	306	0
Chemical Safety and Hazard Investigation Board (CSB)	11	9	11	9
DARPA	2939	3170	3070	3439
Department of Defense S&T Total (6.1-6.3)	14011	13199	13942	13661
DOE Office of Science	5391	4473	5550	5391
Environmental Protection Agency (EPA) S&T	724	451	661	449
National Institute of Standards and Technology (NIST)	954	725	944	629
National Institutes of Health (NIH)	34084	26924	36000	34084
National Science Foundation (NSF)	7472	6653	>7472	7472

All amounts in millions of current dollars
 Strikethrough = money appropriated to terminate the program
 * = Projections based on House/Senate marks, budget deal, and educated guesswork

How are our favorite agencies?



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Energy et al

- Senate Committee passes House DOE Science Bill
- Wind, solar, and electric vehicles tax credits mostly preserved in HR 1
- NASA, NOAA Nominees Stalled
 - Jim Brindestine
 - Barry Myers
- FERC denies DOE request to compensate coal/nuclear plants



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Environment

- Michael Dourson nomination to run Chemical Safety and Pollution Prevention withdrawn
- IRIS future in question
- Michael Dourson withdrawn
- 4th Annual Climate Assessment Released
- Changes in EPA SAB policy



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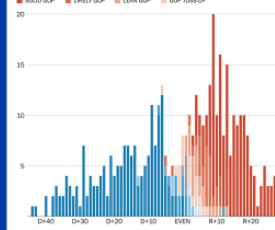
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Comparing Partisan Voter Index for 2018

Pure PVI

House ratings vs. Partisan Voting Index

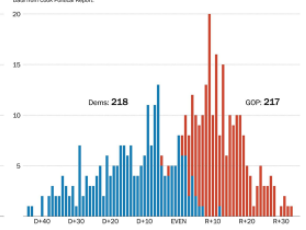
Data from Cook Political Report.



No Blue GOP districts

If Dems win all toss-ups and hold their own seats

Data from Cook Political Report.



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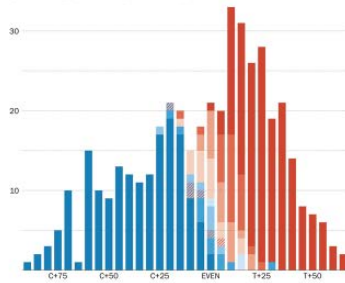
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Comparing Districts by Trump Vote

House ratings vs. 2016 vote

Data from Cook Political Report, DailyWise.

SOLID DEM, LIKELY DEM, LEAN DEM, DEM TOSS-UP, HELD BY GOP, SOLID GOP, LIKELY GOP, LEAN GOP, GOP TOSS-UP



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Questions?

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<p>American Chemical Society ACS Green Chemistry Institute®</p> <p>ACS GCI Update to CEI</p> <p>March 17, 2018</p>	<p>ACS Chemistry for Life® ACS Green Chemistry Institute</p> <p>Since we last talked...</p> <ul style="list-style-type: none"> • Strategic shift to advance green & sustainable chemistry through collaboration within ACS and across the sustainability ecosystem <ul style="list-style-type: none"> – Potential areas of collaboration • GC&E Conference: Jenny MacKellar • Educational Initiatives: Jenny MacKellar • Roundtable Activities: David Constable
<p>ACS Chemistry for Life® ACS Green Chemistry Institute</p> <p>ACS GCI's Mission</p> <p>Green Chemistry & Engineering: Innovation for a Sustainable Future</p> <p>Catalyze and enable the implementation of green and sustainable chemistry and engineering throughout the global chemistry enterprise and the Society.</p>	<p>ACS Chemistry for Life® ACS Green Chemistry Institute</p> <p>Green + Sustainable Chemistry</p> <ul style="list-style-type: none"> • Green Chemistry is the utilization of a set of principles that reduces or eliminates the use or generation of hazardous substances in the design, manufacture and applications of chemical products. (Anastas and Warner) • Sustainable Chemistry is a scientific concept that seeks to improve the efficiency with which natural resources are used to meet human needs for chemical products and services. Sustainable chemistry encompasses the design, manufacture and use of efficient, effective, safe and more environmentally benign chemical products and processes. (OECD)
<p>ACS Chemistry for Life® ACS Green Chemistry Institute</p> <p>Where we work</p> <p>The ACS Green Chemistry Institute leverages the power of the ACS technical and business divisions to drive the implementation of green and sustainable chemistry across the chemistry enterprise.</p> <p>Research & Innovation Industry & Business</p> <p>Students & Educators</p>	<p>ACS Chemistry for Life® ACS Green Chemistry Institute</p> <p>How we work</p> <p>ACS GCI operates as a leader and preferred partner within the G&SC ecosystem in order to drive systemic change in how chemistry is thought about and practiced, and also how it is perceived within the Society.</p> 

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ACS Green Chemistry Institute

SAVE THE DATE

22nd Annual Green Chemistry & Engineering Conference

PORTLAND, OR
JUNE 18 - 20, 2018

#gcande | @ACSGCI | gcande.org

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2018 Program Chairs



JULIE HAACK

Assistant, Department Head and Senior Instructor, Department of Chemistry and Biochemistry
University of Oregon



RICHARD BLACKBURN

Associate Professor, Textiles Technology Group Leader, Head of Sustainable Materials Research Group
University of Leeds

Co-founder
Keracool Limited

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ACS Green Chemistry Institute

2018 Advisory Committee



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2018 Keynote Speakers



JOE DESIMONE

American Chemical Society



DON SADOWAY

American Chemical Society



JULIE ZIMMERMAN

ACS Green Chemistry Institute®

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ACS Green Chemistry Institute

Innovative Programming

- Interactive Discussion Sessions
 - 6 sessions designed to engage GC&E's highly interdisciplinary attendees to discuss and debate challenges and opportunities for GC implementation across the chemistry enterprise
- Green Chemistry Product Showcase
 - Highlighting products and tools that utilized green chemistry during product innovation

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GC&E 2019: Joint International Meeting

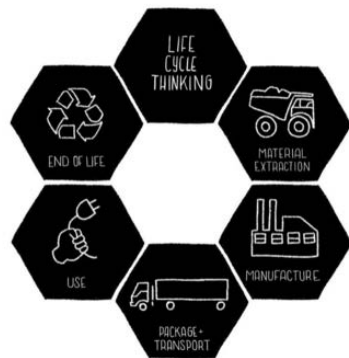
23rd Annual GC&E – returns to Reston, VA

- Joint international meeting with GSC-9
- June 11-13, 2019 – Reston Hyatt
- Theme: Closing the Loop



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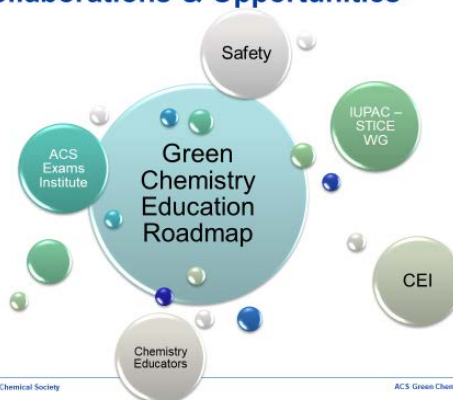
Systems Thinking in Chemistry: It's all connected!



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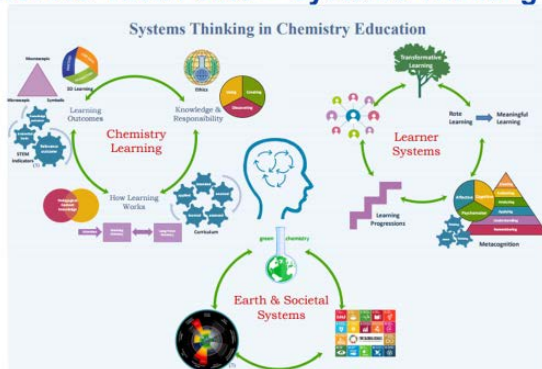
Collaborations & Opportunities



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IUPAC Task Force – Systems Thinking



Rachel Hilstop-Hook, Kristopher Ooms, Peter G. Mahaffy,
The Kings University, IUPAC Poster Session

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Greener Chemistry is Safer Chemistry

- Developing partnerships with CHAS and CCS to draw the connections between safety and green chemistry
 - Joint programming at ACS National Meetings
 - Communication initiative – PR campaign
 - Resource Development



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ACS Green Chemistry Institute®

Pharmaceutical Roundtable (PR)

GCIPR OUTREACH IN INDIA:

Industrial Green Chemistry World Conference (IGCW-2017), Oct 5-6th
<http://www.industrialgreenchem.com/>

- Established a collaboration with the Green ChemisTree Foundation (conference organizers). Provided support and speakers.
 - To engage chemists and chemical engineers to discuss green chemistry and engineering **implementation** in their industries
 - To discuss collaborations with Indian companies and GCIPR
 - Interest: to build an Indian-based GC&E Pharma RT sub-team.
 - To provide a f-2-f workshop on Solvent and Reagent Selection to increase awareness of tools

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Pharmaceutical Roundtable (PR)

GRANTS /AWARDS

- 2 ignition grants (25,000 each) awarded in October 2017
- 3 grants (2 X \$50,000, 1 X \$25,000) awarded in October 2017
 - [Greener Peptide, Oligonucleotide and Antibody-Drug Conjugate](#)
 - [Utility of Photoredox Catalysis in Medicinal Chemistry](#)
- **2017 Peter J. Dunn Award Winners**
 - Professor Bruce Lipshutz, Ph.D., University of California – Santa Barbara
 - Professor Sachin Handa, Ph.D., University of Louisville

TOOLS

- Laying groundwork to expand web-presence of RT tools
- 3 new Reagents Guides made available to the public, 4 new ones added for members only
- Successful transfer of CHEM 21 website <http://learning.chem21.eu> to ACS

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ACS Green Chemistry Institute®

Pharmaceutical Roundtable (PR)

ACS COLLABORATIONS

- GCIPR speakers at the CPhI in Shanghai, Green Chemistry Symposium
- Co-chairs participating and presented at the Pharma Leaders Meeting on Oct 19-20 at Janssen, Spring House, PA
- Organizing Symposia at ACS National Meetings
 - New Orleans/ Industrial and Engineering Chemistry Division
 - Boston: Organic Chemistry Division

SPRING MEETING – GSK, STEVENAGE – MARCH 6 – 7, 2018

Pharmaceutical Roundtable (PR)



Chemical Manufacturing (ChMR)

Current Membership:



AltSep Project

- Organized six successful workshops on alternative separations.
 - Workshop Reports will be translated into a series of journal articles.
- C&EN article – trying to make that open access. Great publicity!
- Presented at the ACS CTO Summit September 14, 2017.
- High Performance Computing for Manufacturing (HPC4Mfg) Grant:
- AltSep/HPC4Mfg session at Spring AIChE meeting in Orlando

Chemical Manufacturing (ChMR)

Biomass Conversion Project

- GC&E 2018 Session
 - Innovation for Bio-based and Renewable Chemicals (in collaboration with BTLR)
- Preparation of a white paper discussing major challenges and opportunities facing the bio-based industry today (in collaboration with BTLR)

Biochemical Technology Leadership (BTLR)

– Current membership:



– Discussions about

- Emerging landscape of bridging technologies that are replacing fossil fuel-based raw materials, sustainability issues associated with the evolution from oxygenates to reduced molecules
- Major challenges and opportunities facing the bio-based industry today (potential collaboration with ChMR)
- Organized two sessions at the Advanced Biochemical Leadership Conference in DC (Feb 28-March 2018)

Hydraulic Fracturing (HF)

The roundtable has been holding monthly meetings, a lot of participation, enthusiasm and interest among members.

- Current membership: active recruiting ongoing.



- New Co-chair: Carla Butler, BASF
- Face-to-face meeting Jan 2018
- Project: Enzymes in hydraulic fracturing: partnered with an academic to provide background search. Continuing to develop a white paper.

Formulator's RT

- Current membership: active recruiting ongoing.



- Continue to discuss expansion of RT into first-tier suppliers and personal care.
- Session at the 2018 GCE Conference: "Developing Products for a More Sustainable Future"
- No co-chairs at the moment.
- Ongoing brainstorming on new project ideas.

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The Committee Appointment Process & 2 Petitions

CEI March 2018

Jetty Duffy-Matzner

ACS
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Committee on Committees (ConC)

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ConC Vision and Mission Statements

Vision: Development of an effective and dynamic committee system.

Mission: To ensure the ACS Committees are optimally organized, resourced, and engaged.

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Different Types of Council-related Committees

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graph TD
    AM[ACS Members] --> B[Board]
    AM --> C[Council]
    C --> SC[Standing Committees]
    C --> SSC[Society Committees  
B&F  
SOCED]
    C --> JBC[Joint Board-Council  
CCAS, CCS, CCPA,  
CWD, CCA, CEI, IAC,  
CMA, CP&RM, PRF,  
CPT, PUBS, CPRC,  
COMSCI, SCC, WCC &  
YCC]
    C --> ECNE[Elected  
ConC, CPC & N&E]
    C --> SCB[Standing  
C&B, DAC, CEPA,  
LSAC, M&E & MAC]
    C --> O[Other  
CAR, ETHX, NTS,  
SEED & CTA]
    
```

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ACS
Chemistry for Life®

Role of ConC

- Each ConC member is assigned 1-2 committees
- Evaluate and recommend committee responsibilities and size
- Ensure committees run well ...
 - Have talent and expertise to do the work
- Develop leadership pipeline
- Make sure operational policies & guidelines are followed
- Assist and advise on appointments of Chairs and members of Council-related bodies

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ACS YellowBook

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- **Online directory of ACS volunteers and leaders:**
 - <https://www.yellowbook.acs.org>
- **Is your contact information up to date?**
 - (excluding ACS Local Section and Division Offices, and ACS National Service records)
- **Is your biography current?**
- **Need assistance:**
 - Cheryl Vockins (c_vockins@acs.org)
 - Office of the Secretary and General Counsel (secretary@acs.org)

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ACS
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Committee Preference Forms

- **2019 Cycle is open: March 26 - June 8, 2018**
- **Anyone interested in service on a national committee should complete the form**
 - Don't need to be a Councilor or current committee member to complete
- **Especially important if:**
 - You are up for reappointment on your current committee
 - Associates & consultants (must complete every year)
 - You are up for re-election as a Councilor
 - You have reached the statutory limit on current committee
 - You want to join a different committee mid-term (rarely granted)

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Committee Preference Forms

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- If your **member** term is not expiring this year, it **should** automatically show as your first choice (1st). You do not need to re-choose this committee for the coming year or continue making further choices.
- If your term is expiring, and if you want to be reappointed to your current committee, make that your first choice.
- Select other committees you may be interested in
- You may choose up to 4 committees
- **Add the rationale:** What experience will you bring to the committee? Why does this committee interest you?
- Add your relevant skills/expertise

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Learn About Other Committees

- **Contact Committee Chair, staff liaison, or ConC liaison**
 - Check the ACS website (www.acs.org/governance) for more information about the committee(s) of interest to you
 - Attend their Open Meeting
 - Review their reports to Council (oral and written): www.acs.org/Councilors

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REMINDER



Update contact information or committee preferences:

<https://www.yellowbook.acs.org>

Need assistance:

c_vockins@acs.org

secretary@acs.org

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Committee Appointment Process

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Committee Chair Appointment Process



- ConC provides Chair recommendations at Spring ACS National Meeting (C1, C2 & C3)
 - Justifications provided to President/Board Chair
- All Chair appointments are made by the ACS President and/or Board Chair
 - President makes the Chair appointments/reappointments for Council Standing and Other Committees in late Spring/early Summer
 - Society and Joint Board-Council Committees appointments/reappointments made by President and Board Chair in December
 - Notifications made by ConC staff liaison

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Committee Chair Appointment Process



- ConC liaison collects input via multiple pathways
 - Observations
 - Current Chair
 - Staff liaison
 - Subcommittee Chairs
 - Former committee members
 - Other ConC members or ACS leaders
 - 5-year performance reviews (if applicable)
- All ConC final recommendations are confidential

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Committee Appointment Process



- ConC considers: contributions to committee, participation, attendance, interest of members, diversity, skill set needs
 - Committee preference form provides key information
 - Continuing members typically have highest priority
 - Consider eligibility (length of time on committee, Councilor, renewability)
- ConC reviews recommendations at Fall ACS National Meeting
 - Placement of members ineligible for reappointment (reached statutory limit)
 - Ensure succession planning

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Committee Appointment Process



- Spreadsheet of all committees: members, associates & consultants
 - ConC liaison develops recommendations (C1, M1, A3, T1)
 - Avoid multiple appointments
 - Input from staff liaison, Committee Chair, and former ConC liaison
 - Note when committee members are inactive (lack of attendance or participation)
 - Provide assistance as needed or wanted

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Committee Appointment Process



- Recommendations Finalized
 - Recommendations compiled for President and Board Chair
 - All appointments approved by President and/or Board Chair
 - Appointment meeting in November/December
 - Appointment, reappointment, statutory limit & "drop" letters sent
 - YellowBook information up-to-date
 - Most acceptances and declinations received by end of January
- Recommendations may be adjusted based on:
 - Elected to an Elected Committee or ACS Board of Directors
 - Member/associate lose local section or division Council election (if required for assignment)
 - Member resignation

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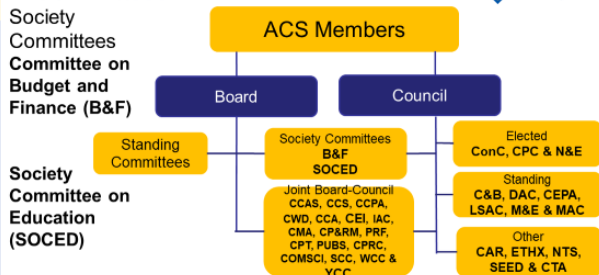
15

Petition on the Composition of Society Committees



Committee on Committees (ConC)

Different Types of Council-related Committees



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Why Amend Bylaws



- The Society has changed significantly since the adoption of these Bylaws
 - Operations are more global and complex
- B&F & SOCED require members with skill sets that meet their unique needs
 - Significant financial experience and expertise (B&F)
 - Broader scope and aims for member representation across all levels of chemical education, K-12 through graduate school (SOCED)

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Summary



- Change in bylaws to allow more flexibility for the two joint society committees
 - B&F, SOCED
- Allow Chair and Vice-Chair to be non-councilors or councilors
- Change committee membership from 2/3 councilors to a majority

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Petition for Election of Committee Chairs



Committee on Committees (ConC)

Current Committee Chair Appointment Process



- **ConC only makes the recommendations for committee appointments**
 - ConC provides Chair recommendations (C1, C2 & C3)
 - Final list of recommendations are confidential (with input from committee executive team and staff liaison)
 - Justifications provided to President/Board Chair
- **All Chair appointments are made by the ACS President/Board Chair**
 - ACS President makes the Chair appointments & reappointments for Council Standing and Other Committees
 - Society and Joint Board-Council Committees appointments & reappointments made by ACS President and ACS Board Chair in December

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Summary



- **Amendment would greatly affect the work of ConC**
 - Elected by council
- **Committee members may have far less experience in serving on, or running ACS committees**
- **Election by committee members would favor internal committee members but may lead to problems**
 - Less accountability / lead to politicking
 - Create bias and affect other appointments within the committee
- **Doesn't provide a mechanism to bring in an external candidate when change is needed**

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