



GC3

**INNOVATORS
ROUNDTABLE**

APRIL 25-27, 2017 | GRAND RAPIDS, MI

HOSTED BY

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BEAUTYCOUNTER



What is the GC3?

- A cross-sectoral, full value chain business membership organization
- A convener of collaborations to advance green chemistry innovation & practice
- An advocate for government policy & funding that advances green chemistry R&D and innovation



Mission: To make green chemistry standard practice – **Mainstream** - in industry, for innovation, public health, and environmental protection

Started in 2005



Ove100 Members, Including:

Johnson & Johnson

LEVI STRAUSS & CO.

BEHR



SC Johnson
A FAMILY COMPANY

BASF
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bioamber



Chemours

Beiersdorf



AMYRIS



Unilever



STAPLES



TARGET

Walmart



CVS Health

DOW

L'ORÉAL

Timberland



EASTMAN

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Question:

How do we leverage the economic/market strength and diversity of GC3 Membership to accelerate green chemistry leadership?

An Agenda to Mainstream Green Chemistry

Green Chemistry & Commerce Council



November 2015

Green chemistry will be mainstream when:

It is embedded in the sustainability goals, innovation, R&D and sourcing strategies of firms through design guidelines, personnel hiring and reward practices, and metrics

It is an integral part of all chemistry education, including workplace education

It is a core element of all government and private sector funding for chemistry and materials research and sustainability initiatives

Products of green chemistry are readily available throughout the value chain at high performance and reasonable cost

An ecosystem of green chemistry entrepreneurs is flourishing

But things change....



Concerns for Science

Energy and Environment

On climate change, Scott Pruitt causes an uproar that contradicts the EPA's own website

By Brady Dennis and Chris Mooney March 9



President Trump and many of his top aides have expressed skepticism about climate change, while others say human activity is to blame for global warming. So what's the administration's real position? (Peter Stevenson/The Washington Post)

This story has been updated.

Scott Pruitt, the nation's top environmental official, strongly rejected the established science of climate change on Thursday, outraging scientists, environmentalists, and even his immediate predecessor at the Environmental Protection Agency.

"I think that measuring with precision human activity on the climate is something very challenging to do and there's tremendous disagreement about the degree of impact, so no, I would not agree that it's a primary contributor to the global warming that we see," Pruitt, the newly installed EPA administrator, said on the CNBC program "Squawk Box."

"But we don't know that yet," he continued. "We need to continue the debate and continue the review and the analysis."

His comments represented a startling statement for an official so high in the U.S. government, putting him

Science Home News Journals Topics Careers

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result is this graph, which shows how select science agencies would fare:



3K



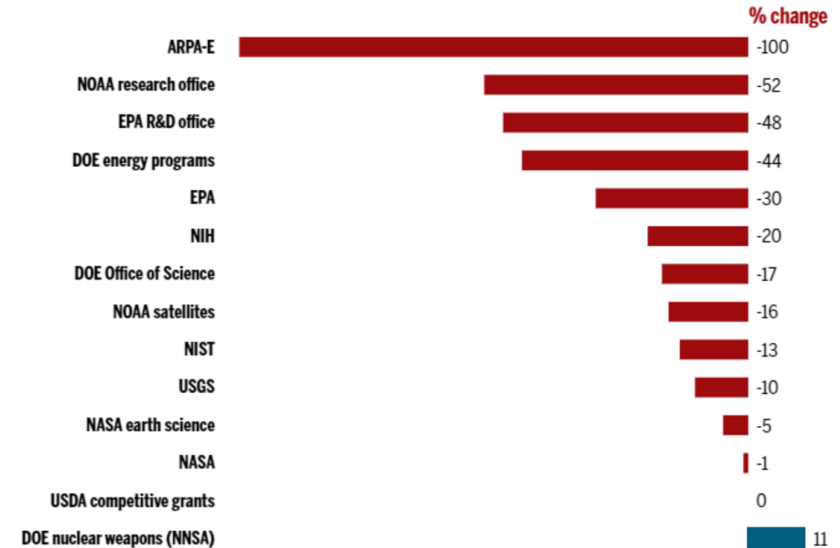
43



269

The ax falls on research

Numerous federal science programs would see major cuts from 2016 levels under President Donald Trump's 2018 budget request, with the National Institutes of Health (NIH) getting a \$6 billion, 20% cut, a preliminary analysis suggests. Nuclear weapons funding would surge.



Graph: David Malakoff/Science

Data: Matt Hourihan, AAAS R&D Budget and Policy Program

NIH cuts could mean no new grants in 2018



What is our role...?

The Professional Biologist

Being a scientist means taking sides

Once you are a scientist, which means as soon as you systematically ask questions about the universe, you take a political side. There are infinite questions that you could ask about the universe, but as only one scientist, you must necessarily choose to ask only certain questions. Asking certain questions means not asking other questions, and this decision has implications for society, for the environment, and for the future. The decision to ask any question, therefore, is necessarily a value-laden, social, political decision as well as a scientific decision. Let me give just two examples.

Salmon ethics

A few years ago, on the Oregon coast, I attended a meeting of a Northwest chapter of the American Fisheries Society. The major topic being debated on these two days was, interestingly, ethics. The major example being used to discuss ethics was one close at hand: whether the American Fisheries Society should petition the US Fish and Wildlife Service to list numerous salmon runs as endangered. To petition for the listings would mean entering into controversies that were already raging over dams, power generation, timber practices, and grazing practices.

The scientists at the meeting discussed the harm that could be done to the public perception of them as objective research scientists if they petitioned for the listings. They were all aware that petitioning for the listings meant they were taking a position in the controversies. But, interestingly, there was also general agreement, in the context of ethics, that they would also be taking a side if they did not petition. They would be taking the

by Mary H. O'Brien

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side of the status quo: business as usual, standard dam practices, maximal power generation, standard timber practices, standard grazing practices, and continued salmon extinction. There was no way for these scientists, as a group, not to take a side.

Risk assessment versus alternatives assessment

A second example describes the actions of individuals. There are many scientists who undertake research and analyze data to produce risk assessments: of the cancer risk of dioxin in the food chain; of the health risks to local residents of burning hazardous waste in cement kilns; of the risks to a fishery of taking out one-third of the trees, or of grazing cattle, in a particular watershed; and of the minimal viable population of grizzly bears and their minimal habitat area.

These scientists may think that their role is to be objective, to not take sides, to provide excellent information so that whatever decision making takes place is informed. And, if decisions are made that seem to ignore the scientific information, the scientists will at least have done their part conscientiously.

By diligently preparing and analyzing data for risk assessments, however, these scientists are participating in the process of assimilative capacity assessments and policy making rather than alternatives assessments. Assimilative capacity assessments ask, How much dioxin is safe in the milk of an infant's mother? How much hazardous waste can be burned without raising the cancer risk to nearby residents by more than one in a million, or one in a hundred thousand, or perhaps one in ten thousand? How many trees can be cut or cattle grazed without putting a salmon run at peril? How much grizzly bear habitat can be destroyed without losing the grizzly

bears?

But pouring scientific skills, agency energy, and public money into these risk assessments generally does not serve the infants, residents, workers, Chinook salmon, or grizzly bear nearly as well as alternatives assessments. One could ask instead, What alternatives do we have to the industrial use of chlorine, which results in the placement of dioxin in an unborn embryo's tissues? What alternatives are available to reduce toxics use and generation of hazardous wastes and eliminate the making of certain solvents and other chemical and production we have to cutting ancient forests? What can we take away from areas to restore ecosystems? What options for reducing our options for reducing bears?

I contend that, in risk-assessment questions, alternatives-assessments contribute to the current but suicidal, assimilative approach and practices. Many industry associations, assimilative-capacity cause the questions extractive and polluting. These questions include: How can we expose people to pounds without killing them sick, reducing their reproduction, or immune system? How do Earth's ecosystems making them buckle?

Many thousands of scientists are actively assisting the assimilative paradigm by participating in the process of assimilative capacity assessments and policy making rather than alternatives assessments.

Many thousands of scientists are actively assisting the assimilative paradigm by participating in the process of assimilative capacity assessments and policy making rather than alternatives assessments.

THE MAKING OF A CONSERVATIVE ENVIRONMENTALIST

"[Durnil] advance[s] one of the single boldest environmental policy ideas of the 1990's."

—KATE SCOTTISH, *The New York Times Book Review*

GORDON K. DURNIL

BioScience

Health & Science

Why people are marching for science: 'There is no Planet B'



Scientists and "friends of science" are participating in the March for Science on the grounds of the National Mall. (Earth Day Network)

By Joel Achenbach, Ben Guarino and Sarah Kaplan April 22 at 11:35 AM

Earth Day has arrived, and so has the March for Science — a global event on six continents (and cheered on by scientists on a seventh, Antarctica). Thousands of people have gathered on grounds of the Washington Monument for a four-hour rally that will culminate in a march down Constitution Avenue to the foot of Capitol Hill.

"We are at a critical juncture. Science is under attack," said Cara Santa Maria, a science communicator who is one of several emcees of the rally. "The very idea of evidence and logic and reason is being threatened by individuals and interests with the power to do real harm."

She went on: "We're gathered here today to fight for science. [The crowd cheered.] We're gathered to fight for education. [Cheer.] To fight for knowledge. [Cheer.] And to fight for Planet Earth." [Cheer.]

[Watch Live: Thousands gather in nation's capital for science march]



Business has a critical role and responsibility...



One thousand companies and investors have signed the Business Backs Low-Carbon USA statement since investors wishing to add their name to the statement can do so by registering [here](#). For media inquiries, please email fleming@ceres.org or Melanie Gade melanie.gade@wvfwus.org.

Dear President Trump, Members of the US Congress, and Global Leaders:

We, the undersigned members in the business and investor community of the United States, re-affirm our deep commitment to the implementation of the historic Paris Climate Agreement.

We want the US economy to be energy efficient and powered by low-carbon energy. Cost-effective and innovative clean energy is essential to our economic and environmental objectives. Failure to build a low-carbon economy puts American prosperity at risk. But the right action now is to build a low-carbon economy that is competitive and resilient. We pledge to do our part, in our own operations and beyond, to realize the Paris Agreement's goal of limiting global temperature rise to well below 2 degrees Celsius.

March 13, 2017

The Honorable Scott Pruitt
 EPA Administrator
 U.S. Environmental Protection Agency
 1200 Pennsylvania Avenue, N.W.
 Washington, D.C. 20460

Dear Administrator Pruitt:

We, the undersigned companies and trade associations are writing to you to convey our united support for the U.S. EPA Safer Choice program. The Safer Choice program has been and continues to be an invaluable resource to industry by working with individual companies to help them develop and promote new and innovative products that meet the rising demand by consumers for products and goods that possess an excellent safety profile.

The Safer Choice Program is a voluntary program with safety and efficacy requirements and product packaging. Any product that meets these higher requirements has the opportunity to use a program specific logo. This logo can be used on product packaging, advertising, creating an incentive for ongoing innovation.

The Safer Choice program helps consumers, businesses, and procurement officers/purchasers make better choices beyond regular safety standards by using chemical ingredients that are safer, including reduced environmental and health hazards, in their products.

U.S. Business Leaders Send Open Letter To Trump: 'Don't Abandon Paris Deal'



More than 300 U.S. companies, including 72 with annual revenues exceeding \$100 million, have sent an open letter to President-elect Donald Trump, urging him not to abandon the Paris climate agreement.

The letter, which was also sent to President Barack Obama and members of Congress, stated directly, "We want the U.S. economy to be energy-efficient and powered by low-carbon energy... Failure to build a low-carbon economy puts American prosperity at risk."

High-profile organizations signing the letter include Dannon, DuPont, eBay, Gap, General Mills, Hewlett Packard, Hilton, Intel, Kellogg, Levi Strauss, Mars, Monsanto, Nike, Patagonia, Staples, Starbucks, The Hartford, Tiffany and Vanill Resorts - plus many others.

Elections change leadership, not reality - I've long believed climate change to be not just an environmental issue but a management issue - posing major long-term risks to natural resources, agriculture, supply chains, infrastructure, and multiple business operations. It's also an issue that some economists have argued is essential to long-term economic growth.



How do we reframe our message and strategies to adjust to a new political landscape?

NEWS 2017 / FEBRUARY

FEBRUARY 22, 2017

What impact will Trump's presidency have on safer chemistry?

An outlook on legislation and the marketplace | By Dr. Joel Tickner



Picture: Gage Skidmore

Finding Common Ground

- Jobs, innovation, manufacturing
- Chemistry, process and product innovation that is:
 - Less resource intensive
 - Less carbon intensive
 - Compatible with the circular economy
 - Less toxic
 - Helps achieve sustainability goals

Reason for Hope...



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CVS Health Takes Major Step to Address Chemicals of Consumer Concern

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Wednesday, April 19, 2017

Parabens, phthalates and the most prevalent formaldehyde donors will be removed from extensive line of store brand beauty and personal care products

Company also publishes full list of re

WOONSOCKET, R.I., April 19, 2017 step forward in advancing its efforts announcing the removal of parabens formaldehyde donors across nearly store brand CVS Health, Beauty 360 The Promise Organic line of store br ingredients. CVS Pharmacy will stop these standards to distribution cente

Related Press Releases

04.20.17
[CVS Pharmacy Unveils Enhanced Customer Experience, New Store Design](#)

A BULLSEYE VIEW

company careers corporate responsibility news & features

HOME NEWS & FEATURES



Target Announces New Chemical Strategy including Policy and Goals for its Products and Operations



January 25, 2017 At Target, our guests come first—they're at the center of everything we do. Guests love shopping our stores and site for all their favorite

related articles

It's Mario Time! You Won't Want to Miss This Larger-

Apple Mac iPad iPhone Watch TV Music Support

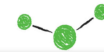
Environment

Climate Change Resources Safer Materials Reports



Safer Materials

How do we make sure our products stay safe for people and the planet?



LEVI STRAUSS & CO. WHO WE ARE OUR STORY SUSTAINABILITY CAREERS INVESTORS PRESS CENTER UNZIPPED BLOG

COMMUNITY CULTURE DESIGN PEOPLE TECHNOLOGY VINTAGE SUSTAINABILITY SOCIAL PROGRESS



TAKING THE LEAD IN GREEN CHEMISTRY



APRIL 12, 2017

POSTED BY DANIELLE SAMANEGO

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At Levi Strauss & Co., innovation and sustainability are synonymous. We are weaving progress into everything we do through a sustainable lens.

That mentality extends to chemical use when it comes to the clothes we make. Our [Sustainable Chemistry program](#) represents the future of chemical management by taking a balanced-based approach to identify and substitute best-in-class or better alternatives from the onset. The program scrutinizes chemicals against specific health and environmental impacts so we can work with our suppliers to develop better alternatives and areas for innovation.

And as Bart Sighs, LS&Co.'s vice president of technical innovation, puts it, "Usually where we lead, others follow."

our own
environmental testin



And organizations these companies are working with



A mosaic of organizations support the Chemical Footprint Project

Signatories		Responders
<ul style="list-style-type: none"> • Investors • Retailers • Purchasers 		<ul style="list-style-type: none"> • Suppliers • Manufacturers • Brands
<p><i>Boston Common Asset Mgmt</i> <i>Calvert Investments</i> <i>CVS</i> <i>Dignity Health</i> <i>Kaiser Permanente</i> <i>Staples</i> <i>Trillium Asset Management</i></p>		<p><i>Becton Dickinson & Co.</i> <i>Johnson & Johnson</i> <i>GOJO Industries</i> <i>Levi Strauss & Co.</i> <i>Radio Flyer</i> <i>Sealed Air</i> <i>Seagate Technology, PLC</i></p>
<p><i>\$300 billion in purchasing power</i></p> <p><i>2.3 trillion in assets under management</i></p>		<p>Leading brands in eight sectors</p>

www.chemicalfootprint.org

GC3 Efforts Building Momentum

- Federal Policy
- Retailer Leadership Council
- Green & Biobased Chemistry Start-Up Network
- Preservatives Collaborative Innovation Challenge
- C-Suite Dialogue
- Messaging



Engaging Federal Policy

- Federal Funding Landscape
- Outreach, partner engagement, and understanding the changing federal and state policy landscape
- Developing societal metrics

Retail Leadership Council – an Uncommon Collaboration

Established in 2013 to promote safer chemicals, materials and products across retail supply chains

Focus:

- Alternatives to chemical functions of concern
- Supply chain transparency
- Customer/Buyer/Supplier education

Kingfisher

STAPLES
MAKE more HAPPEN[®]

BEST BUY[®]

Walmart

THE HOME DEPOT[®]

LOWE'S[®]

CVS
Health

TARGET

GC3

GC3 Collaborative, Open Innovation Competition: Preservatives for Personal Care & Home Care Products

Target Audience: Small companies, startups, universities, and individuals with promising ideas or technologies

Judging: Formulators + other stakeholders, performance testing and safety screening

Awards: Monetary + opportunities to partner with formulators and suppliers for evaluation, joint development, commercialization & scale



**Need Statement & Development Criteria for
New Preservatives for
Personal Care & Household Products**

In Partnership with:



GC3 Open Innovation Competition: Preservatives for Personal Care & Home Care Products

Sponsors & Participants:



CPG Companies

Babyganics

Beautycounter

Beiersdorf

Colgate-Palmolive

J&J

Method

P&G

RB (Reckitt Benckiser)

SC Johnson

Unilever/Seventh

Generation

Retailers

Target

Walmart

Preservative Suppliers

Dow

Lonza

Schuelke

Thor

Other Organizations

Environmental Defense
Fund (EDF)

State of Minnesota

GC3 Green & Bio-based Chemistry Startup Network

*Creating an innovation ecosystem
for green and bio-based chemistry technologies*

Mission: Accelerate the development and market adoption of green chemistry technologies by supporting the growth of green and bio-based startup companies

Goals

- Support green and bio-based chemistry start-up companies
- Introduce our “large” GC3 member companies to new chemical technologies, partnership and investment opportunities



Members of GC3 Startup Network



MOTHERDIRT™



Where the GC3 has opportunities to effect change given the new realities

- Connecting companies and value chains for partnerships to accelerate innovation and market adoption
- Create and replicate market-based models for collaborative innovation
- Leverage GC3 membership to engage the highest levels of business and government in advocating for green chemistry
- Grow the network globally

GC3 as an innovator, convener and connector



Three Pathways to Green Chemistry

Policy Transformation

- Incentives- based
- Funding/Education
- Regulatory

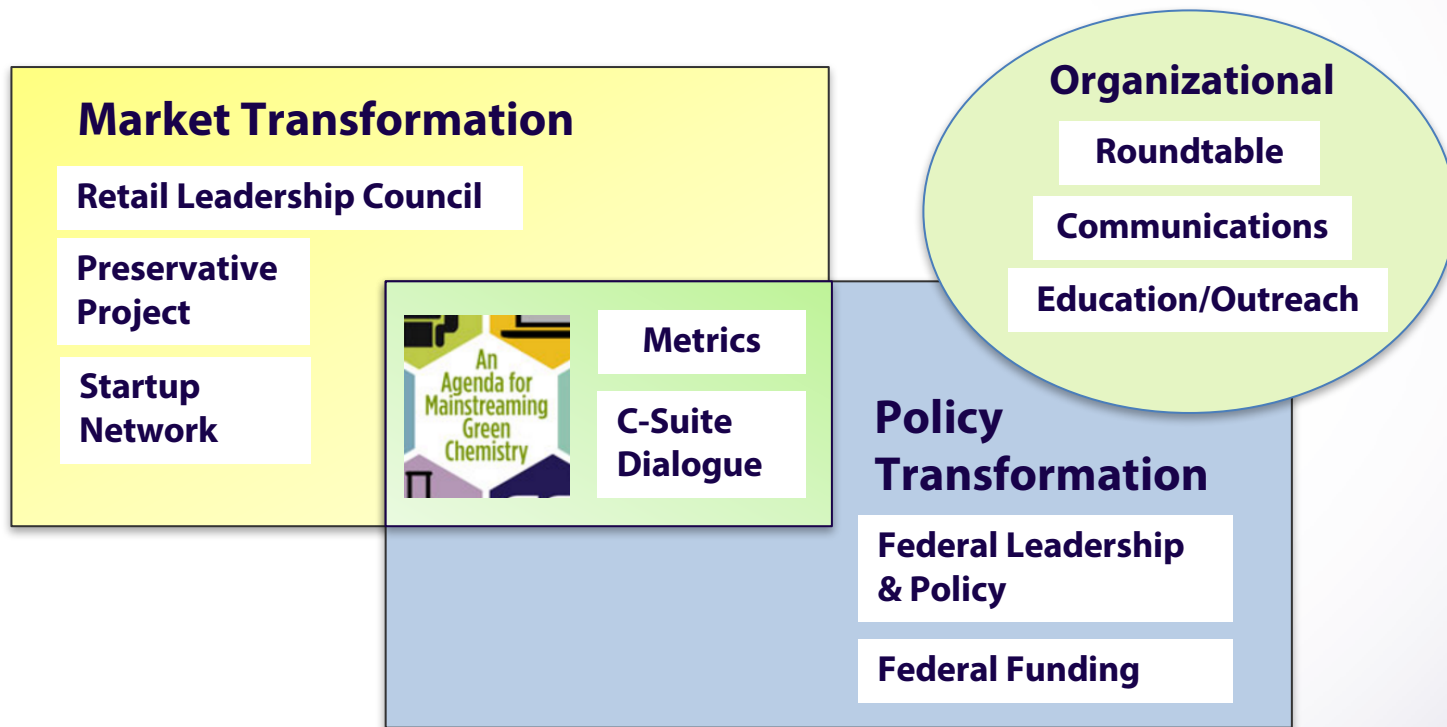
Science Transformation

- Green Chemistry
- Alternatives Assessment
- 21st Century Tox

Market Transformation

- Demand-Side
- Supply-Side

Current GC3 projects accelerating green chemistry



Logistics

- Agenda
- Receptions
- Logistics
- GC3 Team/Advisory Committee
- Evaluations
- Reporting on the Roundtable with Chemical Watch



The changing US political landscape: what it means for green chemistry

Global Business Briefing, April 2017 / Green chemistry, New TSCA/LCSA

The goal of the Green Chemistry and Commerce Council is to advance green chemistry practice. To achieve this we need to spur federal leadership in green chemistry practice. To achieve this we need to spur federal leadership to increased innovation and adoption of new green chemistry practices.

The 2016 elections represent in some ways a transformation of the US political landscape, moved from an openly pro-environmental, science-based approach to climate change and the value of regulation and public health.

While the current administration's agenda is still evolving, it is clear that the focus is on jobs and business. Supporting US-based companies and reducing regulatory burden is a key priority. Deregulatory in nature and based on voluntary incentives, the current approach at the federal and state levels?

Experts from industry and state and federal government will kick off the GC3's annual Innovators Roundtable in Rapid, Michigan. The Roundtable is the GC3's primary collaborative projects.



Reviewing REACH: a ten year milestone
Regulation has brought many benefits, but critics say problems undermine its credibility.



Formulators 'well positioned' to influence development of safer chemicals

They are requesting more toxicological information, says former Staples scientist

20 April 2017 / Chemical manufacturing, Green chemistry, United States

Formulators are well positioned to encourage the development of safer substances and their use in products, say experts lined up to speak at a green chemistry meeting next week.

Held in Michigan, the annual Green Chemistry Council (GC3) roundtable will discuss new business strategies, emerging policy issues, and the challenges and solutions to mainstreaming green chemistry.

One of the sessions will focus on how formulators can encourage the use of safer chemicals.

Panellist Dr Robert Israel, vice president of stewardship and sustainability for paints and coatings maker Valspar Corporation, told Chemical Watch that formulators are setting the bar higher for chemical suppliers because it is "no longer about meeting regulation, it's now about the demands of customers which often go beyond regulation.

"For example we've seen Target, Walmart, CVS Health and many other retailers define specifications either for transparency, the exclusion or minimisation of certain chemicals or they are asking for green certifications such as GreenScreen or the Nordic Swan. If we want to sell our products, we have to meet their



Ground Rules

- Respectful, honest dialogue and listening
- Please keep electronic device use to a minimum (or outside)
- Chatham House Rule: Participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed

Roundtable Desired Outcomes

- Catalyze new green chemistry partnerships
- Discuss the impact of the 2016 elections on green chemistry policy and investment
- Learn about new innovations in green chemistry
- Amplify the impact of GC3 Projects
- Expand the network of companies and people working to advance green chemistry

GC3 Team

- Joel Tickner, Director
- Monica Becker, Co-Director
- Sally Edwards, Project Lead
- Amy Perlmutter, Project Lead
- Saskia van Bergen, Project Lead
- Laura Hoch, Technical Fellow
- Jennifer Landry, Business Manager

GC3 Advisory Committee

- Tammy Ayers, Steelcase
- Bob Buck, The Chemours Company
- Tess Fennelly, GFBiochemicals
- John Frazier, Hohenstein Institute
- James Ewell, GreenBlue Institute
- Al Iannuzzi, Johnson & Johnson
- Al Innes, Minnesota Department of Pollution Control
- Bob Israel, Valspar
- Rich Liroff, Investor Environmental Health Network
- Roger McFadden, McFadden and Associates, LLC
- Babette Petersen, Capricorn
- Ken Zarker, Washington State Department of Ecology



Join the Conversation on Twitter

Green Chemistry & Commerce Council (GC3) = @The_GC3

Steelcase = @Steelcase

GC3 Roundtable = #GC3RT

Tell us what you think!

Grab a post-it note and share your thoughts on the question of the day.

Today's questions are:

- What was your favorite moment or quote from the GC3 Roundtable today?
- What makes the GC3 unique?

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BEAUTYCOUNTER



13th Annual Innovators Roundtable

May 7-10, 2018

Hosted by

EASTMAN

Eastman Chemical Company

Kingsport, TN





Thank you!

Joel Tickner, ScD
Joel _ Tickner@uml.edu

US Senator Chris Coons

