

Green Chemistry Education Project Group Call

January 24, 2012

Participants: Monica Becker, Monica Becker & Associates Sustainability Consultants; Sarah Beatty, Green Depot; Amy Cannon, Beyond Benign; Shari Franjevic, Transform to Green LLC ; Barbara Hanley, HP; Kathleen Hurley, Actio; Todd Krieger, DuPont ; Brian Penttila, Pacific Northwest Pollution Prevention Resource Center (PPRC); Bob Peoples, ACS Green Chemistry Institute; Brian Martin, Seagate ; Dawn Shiang, Dow; Alex Stone, Washington State Department of Ecology; Phyllis Strong, Minnesota Pollution Control Agency ; Homer Swei, Johnson & Johnson; Joel Tickner, LCSP; Howard Williams, Construction Specialties, Inc.; David Wylie, ACS Green Chemistry Institute; Ken Zarker, Washington State Department of Ecology

Agenda

- I. Discussion of comments on draft GC3 policy statement and modifications
- II. Discussion of input from companies on ability to obtain sign off on the statement (modifications that need to be made)
- III. Discussion of finalization and outreach steps, including media (as well as connection to Green Chemistry Commitment
- IV. Initial discussion of green chemistry bootcamp and establishment of small group to begin agenda planning

Beyond Benign 's Green Chemistry Commitment

Amy provided an update on Green Chemistry Commitment – Beyond Benign has been working with a faculty advisory board since last summer to gain ownership of the commitment. Got the commitment to a point where could discuss at a meeting in Boston on Jan 10, attended by about 60 people. Engaging more stakeholders to finalize. <http://greenchemistrycommitment.org/index.html>

The Green Chemistry Commitment is a program that will hopefully unite academia around what GC education should look like. Recognized need for a shift in way chemists are trained. Fashioned after Second Nature's President's Climate Commitment where university presidents sign on to commitment to making campus climate neutral. This is more curriculum-based to bring academic community – united voice for GC. Goal is to bring about lasting change in chemistry departments. GC3 policy statement is coming from industry – GC3 companies – supporting document to help advance GC commitment but broader in nature. Interest in expanding commitment to chemical engineering and materials science after chemistry part.

Comments on the GC3 statement:

- Under bulleted list – including knowledge of tools and strategies. Incorporate tools for lifecycle assessment, hazard assessment, alternatives assessment
- Fix language: With our companies and “our supply chain”

- Managing information should be in the list of topics – managing data gaps and trade offs
- Understanding hazard communications should be in the list
- GC3 should send to other experts in GC education to get feedback.
- Green Chemistry Institute will send to GCI industrial roundtables. One question is how to include input from non-GC3 members – can they sign on as well?
- Date all versions. GC3 will provide mechanisms for companies to sign on if not GC3 companies.
- Have something on supply and value chains. Clarify what this is. What if a company doesn't have a mechanism to monitor/measure commitments in the statement? Are there measurable aspects of this? What am I committing to and would I be held accountable to?
- If each supplier has different way to address green chemistry education that could be an issue.
- HP trying to put together GC education and training program; managers asking why this isn't being taught at universities due to costs. Letter is a way to go back to universities and say this is a skill set for which we have demand.
- Dow just put out sustainable chemistry training pilot and now taking to rest of people in R&D. These skills are really valuable and things as simple as lifecycle thinking are missing elements not generally taught to chemists. Someone has to do it and Dow would like to share resources.
- Should we move to metrics with this policy statements? Lots of options in metrics and need flexibility for people to choose indicators that are most efficient. Focus should be to get statement out there and work on metrics as a next step. Are the metrics in the statements for academic institutions or for companies themselves? These are related. If we ask for both is that too much? Should revise statement to consider whether industry commitments are too strong at this point.
- Cancun communiqué – letter to businesses to sign agreement and then use website to show comments, universities that get a seal, have to administrate. In our case the statement would be the GC3 Green Chemistry Communique and would be signed by academic institutions, but it is a good example: <http://www.cancuncommunique.com/>; General info about the Cancun Communique: <http://www.cancuncommunique.com/the-communique>
- Continuing education part is key to ensuring that executive suite is populated with people who get green chemistry. Are we getting too detailed here with the statement? Is goal simply to put out a strong statement that companies need well trained chemists? Should continuing education part of statement be reduced? There are mixed opinions as to this.

Next Steps & Requested Input

Goal is to get statement out by mid-February. Perhaps a news blurb in C&EN, GCI Nexus (GCI could talk to C&EN about this). Could also send as a letter to academic institutions to ask about what they are doing. Statement should also support university-based continuing education programs. Also important to have as an internal commitment in firms.

We are still not getting lots of feedback on red flags in the statement with regards to companies signing on. It would be useful to send the statement to the GC3 listserv asking in a yes/no fashion if people can sign.

As we get closer to final draft – identify within the GC3 or this group – 2 or 3 companies – use those companies as guinea pigs to get through their chains of command. Note who has said they could sign as is – for example J&J.

Green Chemistry Bootcamp

- Is there a formal assessment of needs?
- What is out there in training programs on green chemistry and safer materials already and compare against needs.
- Probably not a lot out there on GC or depth of understanding.
- GCI launched training on GC and advanced GC at Green Chemistry and Engineering Conference. GCI going to run a 1 day pilot at ACS meeting in March to get feedback to develop full training. Want to build in flexibility for different sectors.
- Dow just did a training – very new and very experienced employees – 200 case studies of problems.
- What's out there in terms of training, content, and comparing these? David Wylie at GCI will do some of that assessment of what training is out there.
- Idea here is a bit broader than GC training for chemists – for multiple types of professionals and also a focus on safer alternatives assessment and not just GC.

A small group to discuss the results of the needs assessment and next steps has been established. After that group discusses next steps, another group call will be organized for some time in February.

- *Small group to discuss GC/safer alternatives bootcamp: Dawn Shiang, Shari Franjevic, David Wylie, Mark Myles, Homer Swei*

Next Call

Mid/Late February, Time & Date TBD