

**GREEN CHEMISTRY SUPPORT ROUNDTABLE**  
**Constitution Hall, Lansing**  
**Tuesday, August 19, 2008, 9:00 a.m. – 12:00 noon**

**Members in attendance:** Patricia Beattie, Clinton Boyd, David Browning, Robert Craig, Linda Dykema (alt.), Tracey Easthope, Rawle Hollingsworth, Yinlun Huang, Dalila Kovacs, Ted Schettler, Anne Wallin (alt.), Guy Williams, Gabe Wing

**DEQ staff in attendance:** Steven Chester, Frank Ruswick, Marcia Horan, Robert Jackson, Karen Edlin, Adam Pohl

**Guests:** Yve Torrie, Lowell Center for Sustainable Production

**9:00 – 9:15 a.m. ~ Welcome**

*Frank Ruswick, Senior Policy Advisor, DEQ*

**Discussion:**

- This is a working session to discuss the July 2008 Action Plan as well as Workgroup charges and timelines.

**Conclusion:**

**Action Items:**

**9:15 – 9:30 a.m. ~ Introductions**

*All*

**Discussion:**

- Still seeking representation from general public and labor.
- Richard Jackson, University of Michigan, has returned to California.

**Conclusion:**

**Action Items:**

**9:30 – 9:45 a.m. ~ John Warner – Upcoming Green Chemistry Presentation**

*Anne P. Wallin, Director, Sustainable Chemistry, Dow Chemical Company*

**Discussion:**

- Dow Chemical is arranging for John Warner, co-author of the 12- Principles of Green Chemistry and founder of the Beyond Benign organization, to speak at Dow Chemical staff and conduct a general presentation in the Midland area. An opportunity may exist for the Roundtable to meet with John Warner during his visit to discuss the Directive and opportunities for Michigan.
- John Warner is aware of what the Roundtable is doing, in fact he commented on the draft Action Plan. He is interested in developing Green Chemistry Metrics.
- If there is interest, the Roundtable could hold a meeting or joint dinner meeting with John to coincide with the general presentation.

**Comments:**

- Ideas for topics, promoting the general presentation, and connecting the event to the Directive:
  - Advise the Michigan Chamber, Business and Institutional Furniture Manufacturer's Association, American Chemical Society, professional

associations, commodity groups, industrial chemists, and sustainable business forums of the event.

- Tie presentation with some deliverables of the Executive Directive; use John Warner's credibility to strengthen Roundtables efforts. It's important though to have a path of action for people to follow after this important presentation.
- Inform the Governor's office of the event and its importance to advancing Green Chemistry in Michigan.
- The Michigan Chemistry Council could assist with outreach – if relative, the Michigan Department of Agriculture may extend invitations.
- Presentation/conversation should be focused (policy, renewables, etc) or the message will get lost. The presentation should be relevant to the entire group and not too technical.
- Ideally, the presentation should focus on either the business case for green chemistry or why green chemistry is important for Michigan.

**Conclusion:**

- Roundtable members would like to meet with John Warner.

**Action Items:**

- DEQ will work with Dow on coordinating Roundtable meeting w/John Warner presentation.

**9:45 – 10:30 a.m. ~ Green Chemistry Action Plan**

*Yve Torrie, Lowell Center for Sustainable Production*

**Discussion:**

- July 2008 Action Plan – steps to completion include today's Roundtable presentation, complete necessary changes, undergo secretarial review, present to Director, post to web when final.
- There is a new companion Action Plan Summary piece which outlines essential points of effort.
- July 2008 Action Plan updates based on written comments and the Roundtable's comprehensive discussion on 5/22.
- It's important to note: nothing was lost, the title has changed, formatting is the major change you'll notice, some details from the body were moved to appendices (lists are not all inclusive and are provide as examples only), workgroup charges were included, and the overall timeline was shifted.

- Still 3 development phases:

Phase I – Building Awareness (1-6 months)

- Timing change – action item deliverables shortened.
- Action 1 – defines scope and metrics for measuring success.
- Action 2 - builds resource clearinghouse.
- Action 3 - **NEW**: builds support and commitment from stakeholders.  
Explanation: This is an engagement strategy – we want active two way conversation in the state. Roundtable members represent constituency, need members to seek input from these groups to help determine if the Roundtable is on track or if it needs a course change. Need this to garner support for green chemistry; DEQ can't move this forward alone.
- Action 4 - **MOVED UP**: establish financial resources with a bullet in the Appendix that specifically talks about opportunities for foundations to provide funds. Additional resources can be added, like the Fair Food Foundation.

Phase II – Building the Program (6-36 months)

- Need to strengthen idea that this is good for business bottom line.
  - Action 5 - convene green chemistry research conference.
  - Action 6 – create Green Chemistry Awards.
  - Action 7 - **MOVED UP**: green chemistry education. There needs to be more

information on educating the public, although this is implicit in many of these action items this is an important piece that needs more prominence. To win green chemistry PR battle, the Roundtable needs to ensure that this is something we are planning for from the beginning.

- Action 8 - build on existing capacity to advance long-term green chemistry directions.

**Phase III – Building the Future (3-5 years) – results of earlier work**

- Action 9 – facilitate research of new innovative technology – catalyze research and spur investment.
- Action 10 – establish Green Chemistry Support Program – Michigan model of green chemistry innovation, not sure what it will look like but know goal.
- If government can't tell schools what to teach, how do we advance green chemistry curriculum in Michigan?
  - Doing internship pilots now with Grand Valley, Wayne State, Michigan State, Kettering – will bring ideas back to the Roundtable.
  - John Warner – Beyond Benign good opportunity to expand curriculum, follow his examples.
  - The Clearinghouse will help identify what is happening in Michigan and will allow us to build from there.
  - Community Colleges are the early adopters, look there first to get things started.
  - A possible model is the sustainability movement.

**Conclusion:**

- Action 3: there are opportunities to suggest language that is a better fit with the intent.
- Action 4: opportunities exist to identify additional funding resources for inclusion in the addendum.
- Action 7: Roundtable should review California's green chemistry work to ensure educational opportunities and business incentives aren't missed.
- Action 10: look at adding flexibility in layout – currently too specific.
- Appendix E: opportunities exist to add additional ideas.

**Action Items:**

- Add education/outreach charge to Workgroup 2 – garnering/fostering support of the general public.
- Update Action Plan per today's comments/additions and forward to DEQ Director Steven Chester.
- Press Release during P2 Week.

**10:30 – 10:45 a.m. ~ Next Roundtable Meeting Discussion**

**Discussion:**

- Roundtable timeline has us meeting quarterly, should Workgroups report at John Warner meeting? Roundtable needs Workgroup 1 to bring scope/boundaries to next meeting - this can not wait for 6 months.
- There is concern about timelines presented in the Action Plan, for example do Workgroup 1 and Workgroup 2 overlap, has the clock officially started? The Action Plan timeline is just a framework for reference – we are underway but we need to settle on the scope soon.
- Although mentioned in the Executive Directive, consider changing the title 'Green Chemistry Support Program' – the term support is not clear.
- Questions over the food vs. fuel debate (ecological economics), interests are beginning to clash over limited resources, would the Roundtable benefit from having representation from an economist? We do have a Roundtable representative from the Michigan Economic Develop Corporation.
- Michigan seen as pushing the envelope by others – Michigan will be the model for

other states and industry. Future agendas should leave space for a brief discussion on what's new in green Chemistry – like what is happening in Ontario. We should look for opportunities to leverage for Great Lakes focus.

**Conclusion:**

- Workgroups will report out at next Roundtable meeting – mid/late November or early December.
- Action Plan timelines need to be adjusted to show overlap where necessary.
- The Roundtable would welcome an information exchange with Ontario at the November/December meeting.

**Action Items:**

- Next Roundtable meeting to be scheduled in late November or early December – Workgroup 1 will need to report out on scope.
- Arrange Ontario presentation for next meeting.

**10:45 – 12:00 noon ~ Workgroup Breakout**

**Discussion – Full Group**

- Workgroups - general
  - need a chair or co-chair,
  - may seek outside experts for participation, and
  - will report out at Roundtable meetings.
- Workgroup 1:
  - Charge – things to think about:
    - Need to nail down definition, which will lead to boundaries.
    - May the Workgroup change the definition of green chemistry? The Executive Directive provides the definition, 12 principles define boundaries.
    - Look to see which niche Roundtable can fill and what its priorities should be.
    - Consider recognizing this as a broad topic, point out that we can't do it all and must focus, set priorities and move ahead with pieces.
    - Do we identify a 'touch stone,' something we can always go back to?
    - Think of the Executive Directive as a vessel, we need the Workgroup to refine the vessel and set priorities. Workgroup 1 will need to come back in November with a recommendation on how to approach this and why. Maybe there will be two different ways to approach this; you would then give the Roundtable the pros and cons of both for consideration.
  - Timeline – need to be specific with when scope is needed
- Workgroup 2:
  - Charge – things to think about:
    - Are there other groups meeting in state on sustainability/energy that should be included in conference?
    - Do we add outreach component to public and is this one component or continuous?
    - Under education and outreach maybe include Service Learning approach for college students.

**Workgroup Breakout:**

- Workgroup 1: Great Lakes Conference Room
  - Patricia Beattie, Clinton Boyd, David Browning, Tracey Easthope, Neil Hawkins, Rawle Hollingsworth, Yinlun Huang, Martha Stanbury, Ted Schettler, Gabe Wing
- Workgroup 2: Coleman Young Conference Room
  - Tracey Easthope, Jerry Howell, Yinlun Huang, Dalila Kovacs, Ann Wallin (alt.), Guy Williams