

GREEN CHEMISTRY ROUNDTABLE

Michigan Department of Natural Resources and Environment
(DNRE)

Constitution Hall, Lillian Hatcher Conference Room

525 West Allegan, Lansing

January 21, 2010

Members in attendance: Mariann Anticoli (phone), Patricia Beattie, Clinton Boyd, Tracey Easthope, Michael Hales, Rebecca Head, Robert Jackson, Dalila Kovacs (phone), Jim Lowry, Anne Wallin, Guy Williams, Gabe Wing

DNRE staff in attendance: Frank Ruswick, Bryce Feighner, Richard Alexander, Karen Edlin, Jennifer Acevedo, Chris Affeldt

9:00 a.m. – 9:15 a.m. ~ Welcome and Introductions

Frank Ruswick, Senior Policy Advisor, DNRE

Discussion:

- In October 2009 Governor Granholm issued Executive Order 2009-45 which eliminates the Departments of Environmental Quality (DEQ) and Natural Resources to create the Department of Natural Resources and Environment (DNRE); Becky Humphries has been appointed Director of the new DNRE.
- A transition report was developed by a consultant and is available on the new DNRE Web site. This report, called the Michigan Department of Natural Resources and Environment (DNRE) Transition Report: Setting the Stage for Sustainability, talks about agency structure and provides some detail of how business will be conducted. Although a formal structure has not yet been determined it appears there will be three main bureaus which will hold line functions of the current department: 1) Resource Management – fisheries, wild life management, water bureau, and land/water management; 2) Stewardship – renewable/non renewable economic assets; 3) Environmental Protection – much of what was in old DEQ.
- The Michigan Green Chemistry Program will be in the Office of Marketing, Technology, and Education. This Office will be responsible for the DNRE's outreach activities such as training, environmental education, compliance assistance, and pollution prevention.
- Other operational differences include the development of four watershed based regions in the state; Lake Michigan, Lake Erie, Lake Huron, and Upper Peninsula. Each will have a Regional Director that will act as the local liaison and coordinate cross media activities; each region will also have a citizens' advisory council.
- Recommend looking at report issued by the DEQ's Environmental Advisory Council in December called A Roadmap to a New Environmental Management Model for Michigan (Roadmap). This report, which is available on the web, attempts to describe a way of looking at environmental quality beyond the traditional regulatory approach.
- The Roundtable would like an opportunity to discuss the Roadmap as well as meet with Director Humphries.

Action Items:

- Send links to DNRE Transition Report and Environmental Advisory Council's Roadmap to Roundtable.
- Discuss the Environmental Advisory Council's Roadmap at a future meeting.
- Invite DNRE Director Humphries to the next Roundtable meeting.

Discussion:

Green Chemistry Grants – Clearinghouse/GLRI

Richard Alexander, Office of Pollution Prevention and Compliance Assistance (OPPCA), DNRE

- The Environmental Protection Agency's (EPA's) Great Lakes Restoration Initiative (GLRI) has a category called, Pollution Prevention and Toxics reduction with 6.5 million dollars being made available for grants. One of the items mentioned under this category is green chemistry.
- The DNRE is currently preparing an application for a green chemistry technical assessment program. Projecting that we will contract with an existing technical assessment unit to provide assistance to small and medium sized businesses.
- Will this be a technical assistance program? Envision that after the assessments are conducted that there will be recommendations made to the business.
- How many assessments will be funded in the first year? This has not been determined yet. There are few existing green chemistry assessment programs to draw on, but we will be looking at the history of the Retired Engineers and Technical Assistance Program to help us in making that determination.
- To institutionalize green chemistry in the state we need to make sure any work completed through the grant follows established program goals.
- Do we know what the demand is for this type of service? The DNRE believes there are plenty of customers that could utilize this service. We're going to have to do a lot of education and outreach to show that there are positive and economic advantages to instituting green chemistry.
- How is green chemistry being defined in the application? A recommendation was made that the application be proactive and state that green chemistry criteria will be in accordance with that established by the Green Chemistry Support Program.
- A recommendation was made that the scope of work be shared with the Roundtable to help them better understand the proposed program.
- A recommendation was made that the Roundtable be referenced in the application as providing support in this effort.
- The Roundtable would like an opportunity to be involved in future discussions about potential GLRI projects.
- A DNRE intern is currently conducting a national evaluation of all technical assessment programs in the country. We're looking at the values of each, hoping to duplicate successful programs and identify potential priorities. When complete the DNRE will share the results from this evaluation with the Roundtable.

National Institute for Green Chemistry Research in Ann Arbor

Stephen Lange Ranzini, President of University Bank, Ann Arbor and President of Ann Arbor Economic Development Corporation

- In Ann Arbor an established coalition has proposed the development of the National Institute for Green Chemistry Research in Ann Arbor.
- Institute would encompass four activities: 1) establish an environment to test new and existing products and chemical compounds to determine human toxicity; 2) establish an internet based contract research organization to assist businesses with product optimization; 3) provide production scale feasibility proof of concept; and 4) provide consulting services (business incubator for manufacturing).
- Existing collaboration is in Ann Arbor, but they want to get the word out and partner with others. Want to leverage Michigan's centers of excellence to create economic development.
- Want to transform image of Michigan from rust belt to green manufacturing hub, this in turn will provide an advantage to attracting new business. Michigan needs a positive image, for example Pure Michigan; Pure Michigan could mean green manufacturing.

- How can the Roundtable help this effort? Individuals should contact Stephen Lange Ranzini if they are able to help.

ATSDR National Conversation on Environmental Health and Chemical Exposure

Rebecca Head, Ph.D., Monroe County Health Department

- The National Center for Environmental Health (NCEH) and Agency for Toxic Substances and Disease Registry (ATSDR) are under one leadership at the Center for Disease Control. The ATSDR focuses on toxicology.
- The National Conversation is looking at how things can be better structured by looking at current practices, future exposure, and past exposed communities. The effort will bring together experts from multiple sectors to work in the following six areas: Chemical Emergencies, Education and Communication, Monitoring, Policies and Practices, Scientific Understanding, and Serving Communities. Provides an opportunity to evaluate how the public health system is organized.
- Groups have an array of topics related to public health and chemical exposures that they will evaluate and report on.
- The purpose of this effort is to look at chemical exposures from a public health model. Public health, like pollution prevention, is upstream. We want to prevent disease and exposure from occurring.
- Public health sometimes looks at not having all the data on hand to be able to provide prevention. Like green chemistry, public health model says we may not be able to assess all the chemicals out there, but we can start to look at which chemicals don't cause an ill effect and try to employ them.
- This effort will continue until April 2011 at which point the Leadership Council will hold an implementation summit.
- Visit the web to keep up with the process and/or to get involved.

Green Engineering & Technology Transfer Workshop

Jack Pokrzywa, Director Ground Vehicle Services, SAE International

- The SAE International is an association representing about 120,000 engineers from around the world.
- The SAE received a grant from the state of Michigan to develop a workshop focusing on developing a green innovation and green technology transfer center for the auto industry.
- Objectives of the workshop include examining: 1) existing green centers, 2) material and research development, 3) technology transfer in the supply chain, 4) education, training and workshop needs, and 5) principles, standards, and regulatory trends.
- The workshop will be held in Troy on March 3rd from 7:30 a.m. - 5:00 p.m.
- Some of the speakers include: John Warner, Rui Resendes, Don Schomer, Bill Stough, Stephen Ranzini, Pat Beattie, Kettering University, Ford, and General Motors.
- The Roundtable would like to determine if there is a way to brand the Green Chemistry Roundtable at this event?

239th American Chemical Society National Meeting

Dalila Kovacs, Grand Valley State University (GVSU)

- Meeting is coming up in March in San Francisco.
- There will be four oral presentations pertaining to green chemistry efforts in education. GVSU will be talking about the Michigan Green Chemistry Roundtable's efforts and their own Green Chemistry Education Network, and Green Chemistry, Green Engineering and Pollution Prevention course. Kettering University will also be talking about their green chemistry course.
- Organized symposium titled Green Chemistry, Sustainability, and Education: Collaborative Projects and Interdisciplinary Outcomes. This will be a day long event with national speakers, providing a good opportunity to share our work and learn from others.

2nd Michigan Green Chemistry Education Network Conference

Dalila Kovacs, Grand Valley State University

The GVSU will be hosting a second conference in May. They would like to provide a short introduction on toxicology, anybody qualified/interested in helping and/or in speaking should contact Dalila Kovacs.

Action Items:

- GLRI – DNRE will be proactive in its application and state that green chemistry criteria will be in accordance with that established by the Green Chemistry Support Program.
- GLRI – DNRE to state in its application that the Roundtable supports the concept and will provide assistance to further develop and implement the assessment program.
- GLRI – DNRE will share the project's scope of work with the Roundtable after the pre-proposal process is complete.
- GLRI – DNRE will consult with the Roundtable on projects for future GLRI funding opportunities.
- GLRI – DNRE will share results from the national technical assessment program evaluation with the Roundtable once it is complete.
- National Institute – Roundtable members should contact Stephen Lange Ranzini, if they have resources/expertise to share.
- National Institute – DNRE to forward Mr. Ranzini's contact information to the Roundtable.
- SAE Workshop – Seek Roundtable support reference in outreach materials.
- ACS Meeting – GVSU will share presentation(s) with Roundtable.

10:30 a.m. – 10:45 a.m. ~ Break

10:45 a.m. – 11:15 a.m. ~ Metrics

Chris Affeldt, OPPCA, DNRE

Discussion:

- Metrics discussion became goal setting exercise. Developing metrics will help to develop agendas and projects for the Roundtable.
- One of the reasons the Workgroup went through this exercise was to identify gaps. The Workgroup started off by using the Executive Directive as goals we wanted to achieve and used the Action Plan as activities to be performed. However, we need to tie a metric to an activity not a heading. This exercise (tool) does show what metrics can be defined at this point, what metrics are doable (near-term, mid-term, long-term), what the resource intensity of doing all of these metrics is. This exercise has helped us to know what metrics are results based and which are activity based; now we can better determine which ones we have resources for and which ones don't fulfill a preferred activity.
- We need to do things that matter. It is easy to measure things that are easy to measure, for example if we want to encourage green chemistry growth at the university level we could say programs or businesses will only hire green chemistry graduates trained/certified in this area - this would drive change in the academic setting and we could use a number of businesses as a metric, but is this what we want? We need to identify key interventions given limited resources and limited time to really make something happen.
- Because the Roundtable doesn't have authority and because there is concern over preference, for example we're giving something priority by giving it a metric, the only boundary we do know is what is in the Executive Directive. The Workgroup used this mandate to shape the matrix. However our analysis has shown that the Executive Directive doesn't provide us a clear path with identified objectives and activities further developed in the Action Plan.
- Metrics will help to show Michigan is making positive progress.
- How do we determine positive progress? Look at Roadmap, one principle says focus on outcomes, typically we recognize we have some set of tasks then evaluate our

performance based on whether or not we've achieved those tasks. But if we want to look at whether we're really making a difference we need to determine what differences we want to make then work backward. Hard to know what our outcomes (results) and outputs (activities) are. How do we identify outcomes and work backwards to determine outputs (need to identify cause and affect relationships)?

- Thinking of outcomes two big ones are improving education and environmental understanding in K-12 and higher and the overall ultimate goal of toxics reduction. Short of the second one, some kind of technology transfer business assistance is needed.
- We need to be outcome oriented. We need to identify a few metrics that drive us; we should be okay with making mistakes, so that we can learn and have a feedback loop to help us identify what actions actually create change.
- The DNRE will look at matrix and meet internally to think about how to better structure this discussion for our next meeting.

Questions

- Should metrics be activity based or results based?
- What resources are available to track metrics?
- Do we pick items that show the success of the Green Chemistry Program or show success overall (growth in Michigan)?
- What should be the group's priority over the next 12-18 months?
- Do we first agree on the right metrics and then look at resources or do available resources determine the metrics?
- Does the Executive Directive play a role in determining metrics?
- How we determine positive progress?
- How do we identify outcomes and work backwards to determine outputs?
- Who is the subject of justification? Is the group's performance being judged against the objectives identified in the Executive Directive? Does the Green Chemistry Program need to justify itself in terms of the resources it uses?

Action Items:

- The DNRE will look at matrix and meet internally to think about how to better structure this discussion for the next meeting.

11:15 a.m. – 11:45 a.m. ~ Conference/Awards

Karen Edlin, OPPCA, DNRE

Discussion:

GreenUp Conference

- Michigan Green Chemistry Conference: A Catalyst for the Economy, Kellogg Conference Center, Michigan State University, East Lansing, October 20, 2010.
- The draft call for presentations and save the date are available for review, comments are needed by Monday, January 25th.
- There are four focus areas: green chemistry for educators, manufacturing, chemical/pharmaceutical, and policy/economic development.
- Want to keep framework open – one hour, two hour with speaker panel. Keep sessions short (20 minutes), get people talking, promote networking.

Governor's Awards

- This year's awards ceremony will be held at the conference during lunch.
- The steering committee should consider providing an opportunity for award winners to present their work at the conference. It's a missed opportunity if we don't allow award winners the opportunity to help describe green chemistry to others.
- The Green Chemistry Program should look at opportunities to provide more press for award winners.
- With respect to the number awards given, it's important to maintain a standard of excellence, keep the high standard of awarding.

Action Items:

- Roundtable to provide comment on the draft call for presentation and the save the date by January 25, 2010.
- The DNRE to finalize and release the save the date and call for papers within the next two weeks.
- The DNRE to finalize award nomination packet and send it Roundtable for review/comment prior to public release.

11:45 a.m. – 12:00 noon ~ Next Roundtable Meeting Discussion**Discussion:**

- Following a quarterly schedule, the next Roundtable meeting will be scheduled for the middle of April, ideally the week of the 12th or 19th.

Action Items:

- A notice will be sent out to schedule a Roundtable meeting to be held during the middle of April 2010.