

## ***Pesticide and Toxic Chemical News***

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Interview:

Michael Wilson, PhD, MPH, Megan Schwarzman, MD, MPH, UC Berkeley Program in Green Chemistry and Chemicals Policy.

Pesticide & Toxic Chemical News (PTCN) recently spoke with Michael Wilson and Megan Schwarzman, both research scientists with the Program in Green Chemistry and Chemicals Policy housed in the University of California–Berkeley’s Center for Occupational and Environmental Health (COEH), about California’s Green Chemistry Initiative and national chemicals policy reform. COEH issued reports in 2006 and 2008 on the link between green chemistry innovation and chemicals policy reform (see PTCN, March 20, 2006, Page 1 and PTCN, Jan. 21, Page 6).

Wilson and Schwarzman on June 27 briefed congressional staff on green chemistry issues and chemicals policy.

### **PTCN: Could you tell us about the Program in Green Chemistry and Chemicals Policy?**

**Wilson:** The program is housed at the Center for Occupational and Environmental Health, which was established about 30 years ago by the California legislature as the vehicle for employing the resources of the University of California to answer questions from the state government around environmental and occupational health problems in the state. The green chemistry program started about a year ago, after the 2006 report requested by the state legislature was finished. We had a relentless demand for input and technical assistance in recognition of the fact that there is an enormous need for expertise, not only regarding the science and technology of green chemistry, but the barriers that have prevented green chemistry from becoming technically and commercially viable and robust in the U.S.

### **PTCN: When did the state legislature come to the realization that a more comprehensive chemicals policy was needed?**

**Wilson:** In 2004, the California Senate Environmental Quality Committee and its counterpart — the Assembly Committee on Environmental Safety and Toxics Materials — commissioned a study by COEH in response to their problem of having 35 chemical-related bills that they didn’t know how to prioritize both in terms of health risk and economic impact.

The state legislature was dealing with this whole set of chemically related bills — many of which were individual chemical phase-outs that were important bills that needed to be addressed. But it was pretty clear to us and the legislature that there was a potential for

these regrettable substitutions — where we phase one thing out and have no idea what the substitute is going to be — and we then introduce something new into commercial circulation that is equally or potentially more hazardous than the thing we tried to phase out. We completed the study over the next two years and published it for the legislature in 2006. That report ended up providing the basis for a number of legislative proposals and ultimately the [state's] Green Chemistry Initiative.

**Schwarzman:** The Green Chemistry Initiative was just launched in 2007 which is a very ambitious project on a short timeline which is looking at what the state should be doing differently about the regulation of toxic substances. It's being overseen by CalEPA and [the Department of Toxic Substances Control]. A [Scientific Advisory Panel] overseeing the initiative issued its summary report a few weeks ago and DTSC is projected to come out with their summary recommendations to CalEPA Secretary Linda Adams, and ultimately to the governor, sometime in August or a little later this year.

**Wilson:** What's unique about the initiative is that it's looking at a comprehensive approach to chemical policy as a way to drive investment in green chemistry.

**PTCN: What are some of the obstacles that have prevented green chemistry from moving forward?**

**Schwarzman:** There are three gaps — the data gap, safety gap and technology gap — which are the conceptual underpinnings of the failures in federal policy that have led to the current state of affairs in the management of toxic substances and our inability to innovate in safer substances in the U.S. to date.

The data gap addresses the lack of hazard data for the vast majority of the 80,000 some chemicals that are in commerce in the U.S. The consequences of that are that consumers lack the information they need to choose the substances that will be safest for their needs. As a result, safer substances have no way of competing on the market on the basis of their safety. There is nothing to spur the innovation of safer substances because there is no way for them to compete on the market with equal footing with existing, potentially more hazardous substances.

The safety gap speaks to the constraints that agencies like the EPA are under to either assess chemical hazards or to control those that are of the greatest concern. The result is inadequate protections for human health and the environment.

The technology gap results from data and safety gaps — the lack of technical and intellectual capacity to provide the R&D for the innovation of substances to move the whole chemical enterprise toward substances that will be safer for human health and the environment.

**Wilson:** Producers are not required to generate and disclose information on toxicity or inform buyers about the hazards of substances they're selling. Economists typically call

such a lack of information a market failure. As a consequence of that, the U.S. chemicals market is flawed, and that is a basic barrier to the success of green chemistry.

**PTCN: Going back to constraints on agencies like EPA, are you referring to constraints under TSCA?**

**Schwarzman:** The constraints of the agencies are largely based on the language of TSCA, which comes through in the level of evidence they have to generate to pass rules on substances. The burden of proof lies on the agencies, and the standard of evidence is exceptionally high.

There is a logical paralysis that has been written into TSCA. In order to demand more hazard information or more research on a substance, EPA has to demonstrate credible evidence of harm or risk to human health or the environment. But they need data to demonstrate that risk, and that data is information they have no power to request from companies, so they are caught in a catch-22.

**PTCN: Is TSCA reform necessary to move green chemistry forward?**

**Wilson:** There's really no way around it on the national level. The fact that we have a statute that has failed to meet the intent of Congress has resulted in fundamental market failures — failures of information, failures of accountability and failures of investment and innovation in green chemistry. TSCA is going to have to change.

But not all is dismal. There are states moving on this — most recently Maine and California, which are moving from chemical by chemical bans to addressing the structural problems that are in the market and the governance [issues] that are costing the state enormously in terms of pollution, occupational disease, and product and hazardous waste.

**Schwarzman:** The other things that are making this change really inevitable are the regulatory changes that have already taken place in the European Union. There are the specific chemical bans of the Restriction on Hazardous Substances Directive, and the extended producer responsibility requirement in the Waste from Electrical and Electronic Equipment Directive. But most important is REACH.

The effect of that in the U.S. is quite profound because REACH applies equally to European and international companies, and as a result any U.S. company with business in the EU is being required to provide the same data on their products as the European companies are.

This is making two potentially untenable situations — American companies will be providing information to the EU that they're not providing to EPA, and there is the potential for parallel product lines where companies are coming into compliance with EU regulations that don't have a counterpart in the U.S. So they're able to sell products in the U.S. that wouldn't pass muster in the EU.

These two untenable situations mean that the ship has really sailed on chemical policy reform, and we're hearing from both chemical producers and downstream businesses that they know this is coming. They already have to comply with things in the EU, and they know its coming to the U.S. The question is just how they do it effectively.

**PTCN: If they know it is coming, why is the chemical industry still fighting TSCA reform?**

**Wilson:** My sense of it is that they are interested in holding out for the best possible outcome, so they're going to hold a pretty hard line until they feel change is inevitable.

**Schwarzman:** The other thing that is important to look at when we think about who is resisting the policy and what it means to them, is a more nuanced look at who the players are. Trade associations tend to be most hesitant and backward looking of the group whereas the individual chemical producers often see the market advantage in gaining a market for safer substances that data disclosure will produce.

The downstream businesses specifically talk about their need for this type of regulation in giving them the transparency in their supply chain that they rely on. They're liable for the safety of their workers and their products. A lot of that hazard information is completely opaque to them, and they need more information about the components that they buy and are going to rely on more data disclosure to give them that information.

**PTCN: Which congressional staff did you meet with on June 27, and what did you discuss?**

**Wilson:** We met with staff from the offices of Sens. Dianne Feinstein (D-Calif.), Barbara Boxer (D-Calif.), Hillary Clinton (D-N.Y.), Frank Lautenberg (D-N.J.) and Benjamin Cardin (D-Md.), and Reps. Henry Waxman (D-Calif.) and Barbara Lee (D-Calif.). We also had a general briefing with about 35 other staffers. We talked about policy barriers to green chemistry innovation in the U.S., described problems with TSCA and drivers of change, and discussed that green chemistry is an issue of economic opportunity as well as an issue of environmental and health safety.

**PTCN: Did you meet with any Republican staff?**

**Wilson:** There may have been Republican staffers at the general briefing. But the fact of a market failure is not so much a partisan issue. It's a basic principle of capitalism that markets require information to function properly, and it's the proper role of government to ensure that buyers have the information they need to make informed decisions. It's [also] the proper role of government to ensure that production of goods and services doesn't come at the expense of public health. Those are non-partisan issues that we have found here in California have support from a wide array of political perspectives.

**Schwarzman:** And here it's the Republican governor who asked the secretary of CalEPA to launch the Green Chemistry Initiative.

**PTCN: Are you hopeful that something is going to come out of this meeting with congressional staffers regarding policy reform?**

**Wilson:** We are optimistic, given this whole set of drivers of change. We talked about the European Union as being a really important one, but also important are Canadian developments and state initiatives and resolutions emerging from major organizations like the American Medical Association and the American Public Health Association calling for major chemicals policy reform.

**Schwarzman:** The fact that over 300 industrial chemicals have been found in umbilical cord blood, as well as hundreds of synthetic chemicals in breast milk worldwide, is really raising people's sense of alarm. Recent events about product safety, such as lead contamination of toys and the safety of BPA and phthalates are all contributing to a sense that products aren't as safe as people have thought they are. Also, the introduction of the Kids Safe Chemical Act is an excellent start that gets at the three gaps we've articulated.

**PTCN: Are you hopeful that the California Green Chemistry Initiative will drive national policy reform?**

**Schwarzman:** We're very optimistic that it will. CalEPA has really taken such a far-reaching approach involving so many stakeholders to inform this process and it appears their goal is to accomplish fundamental reform of the way the state handles industrial chemicals and chemicals in products. We're very optimistic that it will achieve some significant gains in this area that will serve as a model for the country as a whole.

**Wilson:** There continues to be support at the highest levels of the state government for this initiative, and it hasn't evolved into something that has lost its teeth. There appears to be recognition that there is an opportunity here for the state to save an enormous amount of money in terms of [environmental and health] damage as well as opening up new opportunities for employment and investment in the whole green chemistry arena.

**PTCN: How confident are you that the governor will adopt the recommendations?**

**Wilson:** All we can know really is that there has been enormous support for the Green Chemistry Initiative from CalEPA and the secretary of CalEPA, who reports to the governor.

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