

**TESTIMONY of Michael P. Wilson, Ph.D, MPH
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before

The Assembly Committee on Environmental Safety and Toxic Materials
Honorable Wesley Chesbro, Chair

and

The Assembly Committee on Health
Honorable Dave Jones, Chair

Hearing on the Implementation of the California Green Chemistry Initiative;
AB 1879 & SB 509

Tuesday, February 24, 2009, 9:30 a.m.
California State Capitol, Room 4202

Mr. Chesbro, Mr. Jones, members of the Committees, thank you very much for inviting me to today's hearing on green chemistry and chemicals policy. It is my hope that after today's hearing, it will be clear that this issue—as esoteric as it may sound at first blush—is in fact a cornerstone of a livable California future. Like clean energy, it is central to the sustainability of our society: to the re-tooling of our economy, to green collar jobs and social equity, to pathways out of poverty, to the viability of our ecosystems and to human health.

While we're here today to talk about what needs to be *done*, I think it is also important to recognize that California is now in a position of national leadership in crafting the initial architecture of a smart, modern chemicals policy that aspires to protect public and environmental health at the same time as it creates new opportunities for investment and employment.

In taking this approach, California is building the foundation for the green economy that addresses the two overarching crises of our time: economic decline and environmental devastation. We have articulated in our reports to the Legislature and to the Administration that, as California's population grows by 50% over the next few decades, and as the world faces the realities of environmental damage and economic inequality, it is no longer viable to trade off the environment for the economy, or to build environmental initiatives that leave out those most in need of economic opportunity.

The good news is that when Newsweek asked the question, "What is the greenest country in the world?" the answer came back this weekend, California, on the basis of progress we are making in energy policy. California is demonstrating in concrete terms that the green economy is here to stay.

The flip side, however, is that we have only just begun to address the other cornerstone of the green economy: chemicals and products. In this sector, just as we have done in the energy sector, we need a portfolio of policies, beginning with AB 1879 and SB 509, that create the market and regulatory signals sufficient to turn the chemical industry away from dependence on toxic substances and toward the design of safer alternatives, based on the principles of green chemistry.

That brings us to the topic of today's hearing. I will make three points that I believe are essential to the success of green chemistry in California and that largely reflect

our academic writings to date and my service on the state's Green Chemistry Science Advisory Panel.

- First, we need companies to adopt green chemistry as an integral part of their operations.
- Second, companies will do this only when it is in their competitive advantage in the market to do so.
- Third, the point of chemicals policy is to create these market conditions in California.

Looking at each of these in turn:

First, we need companies to adopt green chemistry as an integral part of their operations because they are the economic engines of our society.

They are the ones making the purchasing decisions for the 74 billion pounds of chemicals that are produced and imported every day in the U.S., 90% of which are created using oil, by the way. If you convert 74 billion pounds to gallons of water, it would fill a line of tanker trucks 10,500 miles long, every day.

All of this activity has created enormous benefits and material wealth in the U.S. but it has come at a price, in the form of mounting hazardous waste, occupational disease, water and air pollution, bioaccumulative substances in people's bodies and on and on. Transforming the chemical industry will only begin when companies that purchase chemicals adopt "greenness" as one of the primary factors in their purchasing decisions, on an equal footing with chemical function, price, and performance.

Which brings us to the second point:

Companies will include greenness in their purchasing decisions only when it is to their competitive advantage to do so.

Companies make their purchasing decisions in the context of incentives and disincentives. In the present market, as a consequence of long-standing federal policy failures, notably in the Toxic Substances Control Act of 1976, or TSCA, there are no real disincentives to purchasing hazardous chemicals and using them in processes and putting them into products. In fact, it is extremely difficult for companies even to identify hazardous chemicals in their supply chains because TSCA does not require producers to disclose this information to buyers or to government or the public.

And since 1976, U.S. EPA has formally regulated just five of some 82,000 chemicals in commercial circulation. The U.S. chemical management system is so thoroughly broken that last month the U.S. GAO listed it in their High Risk Series as one of three new priorities requiring attention by the incoming Congress, along with the U.S. financial management system and FDA's oversight of medical devices.

As a result, hazardous chemicals—those that cause cancer, birth defects, neurotoxicity, show up in ground water, and so forth—continue to be bought and sold because their hazardous properties are largely obscured by producers and there

are no real drivers to change to safer alternatives, which involves time and investment by companies. This is the current state of the chemicals market that is moving 74 billion pounds of material every day in the U.S. and, globally, is expected to double in size in just 24 years.

This brings us to the final point:

The objective of chemicals policy is to create the market conditions in California that make it advantageous for companies to invest in green chemistry as part of their competitive advantage.

We need to do three things to make this happen:

Collect relevant information
Protect the most vulnerable and
Re-direct investment.

(You will note that that very cleverly follows the acronym CPR, which I have a special fondness for given my previous life of some 13 years working as a paramedic and firefighter.)

These three objectives address what we at UC Berkeley have described as the chemical data gap, safety gap, and technology gap. Looking at each one briefly:

Collecting relevant information pertains to government's role in gathering both existing information and new information from producers on the hazards of chemicals in products and the uses of chemicals in California. This information should be distributed into the market and put to use by companies who will use it to make informed purchasing decisions. We have found that, by large margins, companies would choose safer chemicals and products if they had good information on which to do so.

Protecting the most vulnerable pertains to the capacity of government to protect public health by taking steps to identify and mitigate exposures that are occurring among pregnant women, children, certain groups of workers, and lower income communities. These groups are at greatest risk of health effects resulting from these exposures.

This is consistent with the views of the scientific community. The *International Conference on Fetal Programming and Developmental Toxicity*, for example, concluded last year that, "prevention efforts against toxic exposures to environmental chemicals should focus on protecting the embryo, fetus and small child as highly vulnerable populations."

It is also consistent with Cal/EPA's environmental justice strategy and with the need to address the burden of occupational disease in California. Estimates for work-related diseases suggest that in 2004, chemical exposures produced over 200,000 cases of cancer, chronic obstructive pulmonary disease (COPD), asthma, pneumoconioses, chronic renal failure, and Parkinson's disease in California. This disease burden resulted in nearly one-and-a-half billion dollars in direct medical and indirect costs.

And finally, re-directing investment occurs among companies when the market is aligned in ways that favor safer technologies, such as green chemistry. Collecting and distributing relevant information and taking action to protect the most vulnerable from exposure to hazardous chemicals will cause this to occur. In addition, California can take other steps to encourage investment in green chemistry, such as tax incentives, public sector purchasing, technical assistance to small businesses and so forth.

If we are able through our chemicals policies to meet these three objectives: Collect and distribute relevant information, protect the most vulnerable among us, and redirect investment, we will effectively re-orient the incentives and disincentives in the entire chemicals market in ways that will advantage green chemistry. Taking these steps will provide a critical element in California's green economy, alongside energy efficiency and climate change policies.

Thank you very much for your attention. I would be happy to answer a few questions at this time or to turn your attention to Mr. Feuer's testimony.

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