

**TESTIMONY of Michael P. Wilson, Ph.D, MPH**  
**The California Senate Environmental Quality Committee**  
**Senator Joseph Simitian, Chair**  
**June 28, 2006. Room 113, the Capitol Building**

Mr. Chairman and members of the Committee, thank you very much for inviting me to today's hearing on green chemistry and chemicals policy. I commend you for your leadership in continuing a process that was initiated over two years ago by Senator Byron Sher and Assembly Member John Laird. These Legislators requested at that time that the University of California conduct an analysis of chemicals policy issues facing the state. The result of that request is the report that you have before you today.

Senator Sher and Assemblymember Laird posed the following three questions to the University:

What are the key chemical challenges facing California?

What are the causes of those challenges?

How might the Legislature respond to those challenges?

In answering these questions, the University convened an advisory committee of UC faculty across an array of disciplines and supported an analysis of the highest academic caliber. This work included discussions with chemicals policy experts in industry, government, academia, and advocacy groups, as well as formal presentations of the report at 17 chemicals policy meetings convened by a broad range of stakeholders across the U.S., all of which served as a sounding board for improving upon the ideas that are contained in the final document.

The report concludes that California faces a number of pressing chemical problems that trace their roots to production and regulatory practices established over 25 years ago, and that these problems are affecting public health, businesses, and government in the state. The report finds, however, that we are entering a unique historical moment in which it is becoming both possible and necessary for California to craft a modern, comprehensive approach to chemicals policy.

The report concludes that if we are able to do so, California will address the root causes of

chemical problems facing the state and will create new opportunities for investment in green chemistry technologies – the design and use of chemicals that are inherently safer for human biology and ecosystems. In fact, the report finds that by acting in the near term, California could position itself to become a global leader in green chemistry technology innovation.

Our Center at UC Berkeley, the Center for Occupational and Environmental Health, was the lead academic unit in responding to the Legislature largely because we have over two decades of experience with chemically related issues in California. We recently confirmed the cause of a neurological disease among automotive repair workers in California that caused these workers to gradually lose function in their arms and legs. We found that the disease was linked to the workers' use of brake-cleaning products that were toxic to the long nerves of the arms and legs. This case, of course, is a single event but it serves as a lens into the costs of weaknesses in chemicals policy. Each one of the technicians we worked with experienced a shift in his or her life experience from being a “productive worker” to being a “disabled person” surrounded by the costs of lost productivity and income, workers compensation, home care, rehabilitation etcetera, and yet in preparing the report that is the subject of today's hearing, we found that thousands of California workers are diagnosed with a chronic disease each year that is linked to chemical exposures in the workplace. There is no question that we have much to gain by simply directing our attention to preventing occupation diseases, and yet the report goes much further than this.

This brings us to the three questions posed to us by the Legislature, which I would like to briefly explore with you.

**The first question: What are the key chemical challenges facing California?**

We found that the products of the chemical industry have produced both extraordinary benefits and genuine problems for society. The industry has contributed substantially to economic growth and to life expectancy in the U.S. We rely on the products of the chemical industry every day; 82,000 tons of chemical consumer and commercial products are sold each day in California alone, for example. The industry is an employment multiplier. At the same time, many of the chemicals used in industrial processes and in products are hazardous to human health and ecological systems in one way or another. One of the effects of this is that for every dollar

businesses spend in purchasing chemicals, they spend up to 10 dollars trying to manage and dispose of those chemicals. The U.S. EPA projects that 600 new hazardous waste sites will be needed each month of every year in the U.S. over the next 25 years. This is on top of 77,000 current sites. Global chemical production is expected to double in 25 years.

The report finds that the overarching challenge for chemicals policy in California will be to amplify the industry's contributions to society while minimizing its negative impacts on health and ecosystems. The path for doing this is through strategies that motivate investment in green chemistry technologies.

**The second question: What are the causes of the chemical challenges facing California?**

The report finds that the federal Toxic Substances Control Act has not provided an effective vehicle in the U.S. to motivate chemical producers to generate and distribute adequate information on the toxicity of their products. This finding is consistent with that of a large number of studies that have been produced since 1984. This information deficit has made it very difficult for businesses and consumers to choose safer chemicals, which the report concludes has undermined the efficient operation of the market. The report finds that this has produced a chemicals market in the U.S. that is driven largely by the function and price of chemicals and less so by the toxic properties of chemicals.

**The final question: How might the Legislature respond to these challenges?**

The report proposes three objectives for chemicals policy in California.

First, we can improve the efficiency of the chemicals market by implementing measures that improve the flow of toxicity and other information from chemical producers to businesses, consumers, workers, and government agencies. This will allow each of these entities to identify and choose the safest chemicals for their needs. This is described in the report as closing the Data Gap.

Second, we can reduce the commercial circulation of the most hazardous chemicals by identifying those of greatest concern and implementing measures that motivate businesses to reduce their usage of these substances through toxics use reduction strategies, including green chemistry. This is described in the report as closing the Safety Gap.

And third, we can introduce a range of other incentives to encourage businesses to invest in green chemistry innovation, and we can support green chemistry research and education. This is described as closing the Technology Gap.

There are many strategies we could employ to meet these objectives, and we will need to come up with the ones that are the best fit for California. The report recommends that this will require the work of a chemicals policy task force, or working group.

The report points out that many companies are invested in the existing chemical production system. They naturally do not want to implement changes without good evidence of economic viability and benefits for health and the environment. Innovation often introduces uncertainty and new costs. At the same time, we have heard from companies large and small that are waiting in the wings for the green chemistry market openings that will occur in California if we become the first state in the U.S. to implement a modern, comprehensive chemicals policy.

I will close by recalling that California has led the nation in many areas of environmental policy. We use half as much energy per capita as the nation as a whole, which saves the average household \$1,000 each year and reduces our greenhouse gas emissions; it has also spawned leading businesses in alternative energy technology. The National Academy of Sciences reported this year that California's vehicle emissions policies have improved public health and have motivated industry to invest in innovative low emission technologies, and that this has greatly benefited the state and the nation as a whole.

The UC report proposes that California can take this same leadership role in the chemicals policy arena, and that in doing so, we will solve a number of chemical problems facing our state, and we will open new opportunities in green chemistry; we could position the state to become a global leader in green chemistry technology innovation.

Mr Chairman and members of the committee, thank for your attention today, and thank you again for convening this important hearing.

\*\*\*\*\*