

OPENING REMARKS

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I would like to thank Chairman Gordon Smith, Ranking Member Byron Dorgan, and other members of the Subcommittee for holding this hearing. My name is David Rejeski, and I direct the Project on Emerging Nanotechnologies at the Woodrow Wilson Center.

Let me begin by talking about the state of commercialization. In February, our project released the first public inventory of nanotech-based consumer products. This suite of already-commercialized products tells us something about the challenges we face as we begin to introduce nanotechnology into the marketplace. It is a test of our policies, resolve, and ingenuity.

- We found 230 products, and believe this is a significant underestimate. I have brought a few samples with me.
- These products have been commercialized predominantly by small and medium sized enterprises.
- Products are entering the marketplace in areas where regulations and oversight are weak, for instance in the areas of cosmetics and dietary supplements.
- Commercialization is already global. We found products from 15 countries.

In late March, the world experienced what may be the first nanotechnology accident resulting in adverse health effects involving a German product -- a bath and tile treatment -- called "Magic Nano."

The product had significant health impacts, with 100 people affected with respiratory problems and six people hospitalized. In addition, a lack of disclosure concerning the ingredients in the product has prevented a timely resolution of the case, and a third party testing seal, highly trusted by the German public, was misused on this product -- a serious offense.

Something is going right – products are being commercialized – but, clearly, things can go wrong if we fail to provide the right oversight.

The greatest enemy of commercialization is uncertainty – about risks, about regulation, and about public acceptance. Pervasive uncertainty will limit the flow of critical investment capital. Let me provide three recommendations to improve the overall climate for commercialization:

- First: There has been a surprising consensus between industry, trade associations, think tanks, and NGOs concerning the urgent need for more EH&S research funds and the need to make sure these funds are strategically allocated to deal with existing and emerging risks. We need to put our research in front of product flows to both inform oversight strategies with good science and to provide important information on risks and benefits to the public.
- Second: For commercialization to succeed, we need an oversight system that is transparent, efficient, and predictable. We do not have that now. Companies are unsure about the regulatory intentions of the government, investors insecure, and the public uninformed. Short of new legislation, there is much more government and industry can do to provide adequate oversight on emerging products. One approach is applying a portfolio-of-initiatives strategy to key product areas. Using cosmetics as an example, one could assemble a portfolio which combines the FDA's Voluntary Cosmetics Registration Program (VCRP), the industry's Cosmetics Ingredients Review Program, labeling guidelines, and consumer education efforts by industry and government.
- Finally, we have waited far too long to begin engaging the public about nanotechnology. Successful commercialization without strong consumer confidence is not possible. Resources for public engagement need to be increased by orders of magnitude and efforts rapidly accelerated.

If we do not address these broad issues, the work of any commercialization institutes, such as those being considered by the Subcommittee, will be severely handicapped and innovations will die on the laboratory bench.

There are also more focused activities that can be undertaken which complement the proposal in bill S. 1908.

First, our commercialization policies and programs need to be informed by rigorous data about nanotech firms, their products, their issues, and needs. The Department of Commerce should work to collect and continually update survey data on nano businesses, working, as needed, with other data collection arms of the U.S. government.

Second, we believe there is a need for a one-stop-shop at a federal level focused on integrating efforts critical to commercialization --- an Interagency Nano-Business Office. The existing National Nanotechnology Coordinating Office was set up to coordinate science, not to drive innovations to market. Such a one-stop-shop would complement the Nanoscience Commercialization Institutes being proposed.

Third, we should use the purchasing power of government, or quasi governmental organizations, like the Postal Service, to help create early markets for critical nanotech-based products, especially energy applications such as lighting, batteries, fuel cells, and photovoltaics.

Finally, we need to begin developing an export promotion strategy to help U.S. nanotech firms in what will be a tough and highly competitive global market. This means engaging agencies that have been largely on the sidelines of the National Nanotechnology Initiative, but will play increasingly important roles in commercialization, such as the Export-Import Bank and the Trade and Development Agency.

There is one important caveat that applies to everything I have said. Any government program, policy, or strategy must work for our small businesses; they are the heart of the nanotech revolution.

In closing let me say that I applaud the Subcommittee for focusing our attention on issues of commercialization. Nanotechnology is no longer just a large government science project. In the long run, key social and economic benefits will only occur if we succeed in bringing innovations to market. Thank you.