

REAUTHORIZING THE NATIONAL NANOTECHNOLOGY INITIATIVE: SMALL SOLUTIONS FOR BIG PROBLEMS

Charles L. Franklin

In a year where the falling economy and rising greenhouse gases (GHGs) have grabbed the country's attention, reauthorizing the National Nanotechnology Initiative (NNI) might sound like a back-burner issue to some—but not to Chairman Bart Gordon (D-TN) and other members of the House Science and Technology Committee. Less than two weeks into the new term, Chairman Gordon and twenty-one co-sponsors introduced the National Nanotechnology Initiative Amendments Act of 2009, H.R. 554, a thirty-page bill that would revise and refine the federal approach to nanotechnology research, coordination, and oversight.

Chairman Gordon has good reason to see nanotechnology as a federal priority. The nanotech industry is growing rapidly, and the shape and direction of that growth has important implications for our economy, our environment, and our health and safety. According to Matthew M. Nordan, president of Lux Research, a prominent research firm that monitors nanotechnology trends, it is estimated that between 2006 and 2014, global revenues from nanotech-enabled products will grow from \$50 billion to \$2.6 trillion, a full 15 percent of projected global manufacturing output. *See* Testimony before the Senate Committee on Commerce, Science, and Transportation, Matthew M. Nordan, President, Lux Research Inc., Apr. 24, 2008. Many of the most promising alternative energy technologies, from electric car batteries to photovoltaic cells, will rely on nanomaterials to be commercially competitive. Commercializing these alternative technologies, in turn, will be critical to meeting long-term GHG management goals and other environmental priorities.

At the same time, significant data gaps remain in the scientific community's understanding of how nanomaterials interact with the environment and the

human body, and how such interactions can be measured. The same unique properties that make nanoparticles so promising in commercial applications also create the potential for unique impacts on human health and the environment. Scientists must develop new testing methods and protocols, new fate and transport models, and new approaches to assessing the impacts of exposure to particles that can be 100,000 times smaller than the width of a human hair. Many of the gaps involve basic research that would be difficult, if not resource-prohibitive for private-sector startups to shoulder at this stage in the industry's development. Yet, filling these data gaps could be critical to determining whether and how future improvements to federal chemical control policy should be directed.

Enter the NNI, an interagency initiative intended to coordinate federal nanotechnology research and development. Starting in the mid-1990s as informal gatherings of various agency staff experts, the program evolved into a formal administration initiative to coordinate on nanotechnology policy. In 2003, Congress passed the 21st Century Nanotechnology Research and Development Act, 15 U.S.C. § 7501 *et. seq.*, codifying the NNI, establishing a more formal legal and organizational framework, and providing dedicated funding to certain federal nanotechnology efforts through fiscal year (FY) 2008. The research under the auspices of the NNI program during these years has provided useful advances in a variety of areas of nanotechnology development. Despite many successes, however, both the National Research Council and the Government Accountability Office (GAO) have called on the federal government to take a more active role in monitoring and directing federal funding and laboratory resources toward these basic data gaps and strategic priorities.

The NNI Reauthorization bill introduced in January would address some of these core needs, overhauling and refining the federal approach to nanotechnology research funding, coordination, and oversight. Key provisions would:

- Update the organizational framework for the government and third party entities tasked with directing and assessing the performance of federal nanotechnology efforts;
- Revise NNI’s strategic planning processes to target key federal research priorities, including health and safety research and designated “areas of national importance,” (e.g., energy efficiency, nano-electronics, health care, and water remediation);
- Increase the transparency of federal nanotechnology efforts by establishing publicly accessible databases of federal projects and supporting nanotechnology education and outreach;
- Expedite commercialization of promising nanotechnologies by coordinating with industry and states on the results of core data sets and by sharing access to federal laboratory resources and infrastructure; and
- Promote research to develop a viable “green” nanomanufacturing industry, and require ongoing consultation with the public, industry groups, and advisory boards on implementing federal nanomanufacturing programs.

The 2009 bill is identical to H.R. 5940, an earlier NNI bill that passed the House on a bipartisan 406-6 vote in June 2008, but then languished in the Senate without markup due to scheduling conflicts. In keeping with the bill’s broad support, Chairman Gordon sent the bill directly to the House floor without Committee fanfare, and on Feb. 11, 2009, amidst frantic negotiations to finalize a compromise stimulus package, the House approved the NNI bill by simple voice vote.

Now attention moves to the Senate Commerce, Science, and Transportation Committee, which will handle the bill on the Senate side. Judging from the bill’s bipartisan support in the House, one would hope the bill can move through the Senate with similar speed. With time-critical Senate confirmations, as well as big-ticket items like the economy, renewable energy,

and climate change competing for attention on the legislative calendar, however, it is too soon to tell whether the important-but-small NNI bill will be able to wedge its way through to the President’s desk for signature. But then, as nanotechnology demonstrates, sometimes it helps to be small.

Charles L. Franklin is an attorney with Akin Gump Strauss Hauer & Feld LLP in Washington, D.C.

AKIN GUMP
STRAUSS HAUER & FELD LLP