

**Center for the Study of Responsive Law  
Center for Genetics and Society  
Edmonds Institute  
Friends of the Earth  
Food and Water Watch  
Institute for Agriculture and Trade Policy  
International Center for Technology Assessment  
Loka Institute  
Silicon Valley Toxics Coalition**

July 24, 2008

The Honorable John F. Kerry  
Chair, Subcommittee on Science, Technology, and Innovation  
Committee on Commerce, Science, and Transportation  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

The undersigned public-interest organizations respectfully submit the following comments concerning S. 3274, the **National Nanotechnology Initiative Amendments of 2008**, currently before your committee.

We were encouraged that the bill contains measures to increase leadership and improve strategic planning to better address environmental, human health and safety (EHS) concerns. The bill provides badly needed new leadership and coordination at the federal level with the designation of a Coordinator for Social Dimensions of Nanotechnology; the establishment of a new Advisory Subcommittee; and the convening of a special intergovernmental panel on the EHS program component area. We applaud the inclusion of a White House Office associate director for the societal aspects of nanotechnology, but there should be two White House associate directors; one for ELSI aspects of nanotechnology and one for EHS aspects.

There are also provisions to improve stakeholder input on advising federal actions, support and oversight of nanotechnology. In addition, the review by the General Accounting Office (GAO) called for in Sec.11 would likely provide very useful recommendations for improving safety in the production, use and disposal of nano-engineered materials and products.

However, given the accelerating rate of commercialization and the already substantial potential risks associated with the technology, the bill lacks urgency and fails to adequately respond in a

number of ways to the challenges at hand. Three of the most significant changes to the legislation we call for are:

- Funding guidelines requiring a 40 percent minimum of aggregate federal spending on research and development of nanotechnology to be allocated for activities directly relevant to (1) the EHS program component area and (2) program components pertaining to the ethical, legal and social implications (ELSI) of nanotechnology, including facilitating public input in developing related policymaking;
- Instructions to federal regulatory agencies to immediately begin developing regulations, standards and guidelines specific to nano-engineered particles and materials; and
- The NNI should be given clear authority to mandate a priority on EHS and ELSI funding levels in future budgets. To give the NNI coordination responsibilities without clear budgeting power simply leaves it as a cheerleader for whatever priority any agency wishes regardless of our Nation's needs.

Without these modifications, we will not be able to support the bill.

### **Increase EHS and ELSI Funding**

While the bill aptly calls for developing better strategic planning on EHS and other social dimensions, as outlined in Sec. 5 and Sec. 10, it fails to mandate increased funding for the EHS and ELSI program component areas. This is disturbing given the broad consensus among groups -- ranging from nanotechnology startups, large corporations and industry associations This is disturbing given the broad consensus among groups -- ranging from nanotechnology startups, large corporations, industry associations, financial investors and insurance companies to environmental, consumer, labor, environmental justice, and other public interest groups -- that the federal government must increase quickly and dramatically its nanotechnology EHS and ELSI funding.

### **Increase Public Engagement and Participation**

Funding for broad public deliberations on nanotechnology, *before* commercialization, has also been sorely lacking. The bill's provisions for public outreach should be recast in terms of deliberative public input. Such reform would require federal agencies to listen to and be educated by the public, rather than promote the one-way communication implied by the current focus on "outreach." The federal government's failure to involve the public in deliberations over nanotechnology and to protect the public from potential risks could result in a public backlash against the technology. The current rush of nanotechnology to market without full public deliberation and proper understanding of its impacts is reckless and threatens to make the considerations of the public interest moot.

For these reasons, we reiterate the call in our previous comments for a substantially increased commitment of nanotechnology funding toward EHS, ESLI and programs to improve public participation in nanotechnology policymaking. To help catch up after years of severely

neglecting these critical areas, allocating 40-percent of national nanotechnology funding for EHS/ESLI is necessary and reasonable.

### **Urgent Need for Development of Regulations**

We call for the NNI reauthorization bill to instruct agencies to begin immediately the process of developing regulations, standards and guidelines specific to nano-engineered products and materials. The current regulations and oversight mechanisms fail to take into account the new and special properties—and potential hazards—associated with materials engineered at the molecular level. Congress must instruct regulatory agencies to consider nanomaterials as “new” substances that present unique properties and risks compared to their bulk counterparts. Currently, at least three to four new nanotech products appear on the market each week<sup>1</sup> without undergoing special review while untold numbers of consumers, industrial workers, researchers and students face potential harm in their homes, factories and laboratories.

A GAO review of standards, codes and regulations pertaining to nanotechnology would be valuable for informing regulatory action and policymaking. However, the two-year timeline for conducting such a review is unwarranted. For years, there has been mounting evidence of serious hazards associated with nanotechnology, especially for workers, and increasingly widespread stakeholder agreement about the urgency of taking action to clarify and reduce these risks. Rather making it dependent on proposed legislation, we urge the Committee to request the GAO to initiate such a study now, independent of the legislation, and on a one-year timeline, as a matter of national priority. We offer specific suggestions for framing that review to increase its usefulness in the attached marked up version of S. 3274.

### **Educational Considerations**

We continue to be concerned that provisions to promote technology transfer are premature, as are the educational provisions, which would leave secondary and undergraduate students inadequately informed about and exposed to health and safety risks in their labs. We also urge the Committee to divide the bill’s current provision for the NNI Advisory Panel, which calls for a single sub-panel on social, ethical, legal, environmental, and workforce concerns into two panels. A single sub-panel could not adequately represent and advise on such a large range of issues. Rather, there should be two sub-panels, (1) one for environmental, health and safety issues, and (2) the other to advise on the ethical, legal and social implications of nanotechnology.

For too long, the priority in the NNI has been one of maximizing short-term commercial and academic interests. Changing this paradigm requires a shift in priorities immediately, rather than passively waiting years for drawn-out funding reviews and program allocations. Future agency and executive reviews, as called for in the bill, will delay shifts in policy and spending priorities even further into the future. The need for a change is now.

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<sup>1</sup> Science Daily, *New Nanotechnology Products Hitting The Market At The Rate Of 3-4 Per Week* (25 Apr 08), <http://www.sciencedaily.com/releases/2008/04/080424102505.htm> , Accessed 7 Jul 08

We appreciate your consideration and hope you will address our concerns in the bill's mark-up. We look forward to working with the Committee to help chart a course for the responsible development of nanotechnology and assure its greatest benefit to society.

Respectfully submitted,

Friends of the Earth

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