

Voluntary Initiatives, Regulation, and Nanotechnology Oversight: Charting a Path

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Thesis of the Report

well-designed and credible voluntary initiatives should be incorporated into a broader strategy for managing the possible health and environmental effects of nanotechnology

Characteristics of Nanotechnology

- Rapidly growing, global industry with tremendous economic potential
- Products, applications, and materials are constantly evolving
- Potential for large health/environmental benefits

Characteristics of Nanotechnology

- Uncertain health/environmental risks
- Risks will vary by product
- Legal mechanisms exist but not designed for this issue

Defining Voluntary Initiatives

“any collective effort to improve environmental performance or manage environmental problems in ways that are not required by law”

Typos of Voluntary Initiatives

- Government-sponsored
 - Green clubs and challenge programs
 - Data collection programs
 - Information-sharing/assistance
- Collective business initiatives
- Business-NGO partnerships

Government-Sponsored

- Green clubs & challenge programs
 - 33/50, Climate Leaders
 - Performance Track, state excellence programs
- Data collection programs
 - High Production Volume Chemicals
 - Voluntary Children's Chemical Evaluation
- Information sharing/assistance programs
 - Environmental Results Program
 - *Nanoscale Materials Stewardship Program*

Non-Government Programs

- Collective Business Initiatives
 - Responsible Care
 - Sustainability Forestry Initiative
 - ISO 14001
- Business-NGO Partnerships
 - Marine Stewardship Council
 - Forest Stewardship Council
 - *Nano Risk Framework*
 - *Responsible Nano Code*

Most Likely to Succeed When:

- Are defined consequences for not meeting performance and results
- Participation yields business and other benefits
- Sponsoring organization clearly committed to goals and value of the initiative
- Public credibility enhanced with ways to:
 - monitor performance
 - minimize free riding
 - apply sanctions for not meeting obligations

Nano Risk Framework

(ngo-business partnership)

- EDF-DuPont collaboration
- Six-step, life cycle framework
- Voluntary participation
- Key features
 - credibility due to the sponsors
 - Uses pragmatic approach to limits in data
 - Relies on a materials life cycle model

Responsible Nano Code

(ngo-business partnership)

- Collaboration of multiple stakeholders
- Three levels:
 - Principles
 - Examples of good practice
 - Benchmarking framework
- Goal is to provide guidance on principles & practices during a transitional period

Nanoscale Materials Stewardship Program

- Provide a firmer scientific foundation for regulatory decisions under TSCA
- Basic program
 - Existing information on properties, hazard, exposure & use
- In-depth program
 - Commitment to develop test data
- May see as prelude to mandatory action

Recommendations (1)

- Regarding EPA and federal agencies:
 - Collaborate on a multi-year strategy
 - Explore ERP model for small nanotech firms
 - Assess voluntary approach to complement mandatory reporting under TSCA
 - Evaluate other chemicals initiatives (e.g., Sustainable Futures, HPV Challenge)

Recommendations (2)

- Regarding business-NGO collaboration
 - Evaluate and build upon the Nano Risk Framework
 - Establish a Nano Risk Forum
 - Explore options for voluntary labeling program

Recommendations (3)

- Regarding business & other stakeholders:
 - Assess potential for an industry code
 - Develop EMS tailored to nano business
- Investment community
 - Consider participation in nano initiatives in financial rankings
- Insurers:
 - Incorporate participation in credible programs in premiums, coverage, & eligibility