No Small Matter: Using Partnerships to Get Nano Right the First Time

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Karen Florini
Senior Attorney

Environmental Defense
finding the ways that work
Corporate Partnership Model

Achieve environmental gains

Produce business benefits

Create broad change
Partnership Characteristics

Results: Environmental and business benefits

Credibility: Separate expenses, no greenwashing

Trust: Written confidentiality agreement

Commitment: Senior management buy-in

Accountability: Public announcement and report

Replicability: Disseminate tools and methods
Examples of Partnerships

- McDonald's
- Robert Mondavi
- DuPont
- Wegmans
- Starbucks
- Bon Appétit Management Company
- Entergy
- SC Johnson
- UPS
- BP
- Citigroup
- Bristol-Myers Squibb Company
- FedEx
- Norwegian Cruise Line
FedEx

Creating a new generation of delivery trucks.

• fuel efficiency ↑ 50%
• air pollution ↓ 90%
• same functionality
• cost-competitive
Providing incentives for healthier meat production.

- Eliminating antibiotics as growth promoters
- Measuring and reducing antibiotic use overall
High Production Volume (HPV) Challenge Program

- **Toxic Ignorance (1997)**
  - 70% of top-volume commercial chemicals lacked publicly available screening data

- **HPV Challenge – 1998**
  - 2,200+ chemicals sponsored by 450+ manufacturers
  - Data by 2005
Nanotechnology Can Bring Breakthroughs
Dr Jekyll → Mr. Hyde?

$65B liability costs to 
insurance industry

$400M cleanup 
costs to GE (so far)

$100M+ in export losses 
to US farmers (per year)
Companies Can Act Now

- Call for proactive risk identification & management
- Advance understanding of risks
- Influence supply chain behavior
- Develop and demonstrate standard of care
- Engage wide range of stakeholders
Partnership Phases/Goals

- Develop standard of care
- Demonstrate through product development
- Launch Product and Standard
- Replicate

Corporate practices
Industry standards
Government policies
Elements of a Standard of Care

- Risk Identification
- Risk Management
- Transparency & Accountability
- Feedback Mechanisms

... All From a Full Lifecycle Perspective
Demonstrating Practicality

- Integrate with product development
  - Phased risk evaluations and controls
  - Application specific controls
- Manage costs
  - Leverage federal research
  - Partner with other companies
  - Market incentives for testing
Creating a Model

• Replication by other companies
  – In other industry sectors
  – Through industry standard

• Adoption by government
  – Through existing policy
  – Through new policy
Proactive Risk Identification & Management

• Acknowledge that nanomaterials are different
  – Hazards cannot be inferred from bulk materials
  – Nanomaterials aren’t all the same

• Commit to up-front testing
  – Sufficient testing to identify risks prior to commercialization
  – Support funding for federal EHS research ($100M)
Proactive Risk Identification & Management, cont.

• **Adopt management standards**
  - *Risks addressed across the lifecycle*
  - *Protective interim risk management in advance of testing*
  - *Appropriate risk management in response to testing, monitoring*

• **Embrace transparency**
  - *Public disclosure of all risk-related information*
  - *Labeling, accurate MSDS disclosures*
Interim Safety Steps - Environment

- Avoid dispersive uses until hazard and exposure/fate data available
- Assess and disclose lifecycle risks in advance of commercialization
- Release/environmental monitoring
Interim safety steps - workers

- Assume toxicity until shown otherwise
- Worker training, industrial hygiene, PPE
- Workplace, worker health monitoring
- Wastes treated as hazardous materials
Engage Broad Range of Stakeholders

- Environment
- Health
- Labor
- Community
- Consumer
- Social Impact
Next steps

• Actively seeking partners
• Stay tuned!