

Nano Regulatory Policy and NGOs: A Global View

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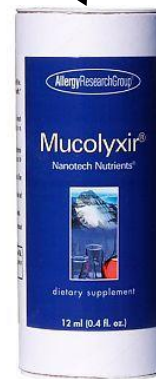
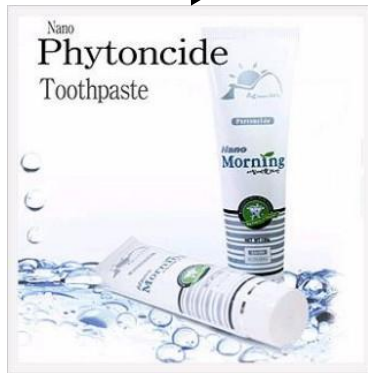
Nano Regulatory Policy and NGOs

- Emergence of Nano-technology in consumer products*
 - Toothpaste, Air Sanitizers, Vitamins etc...

* <http://www.aolnews.com/2010/03/24/gallery-nano-products-are-everywhere/>

Nano Regulatory Policy and NGOs

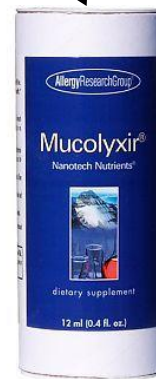
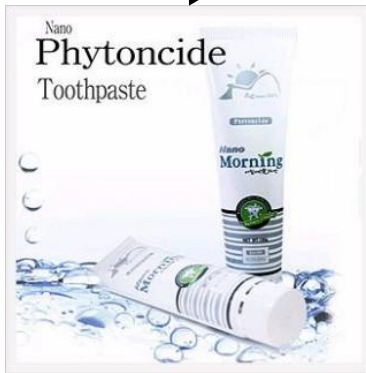
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- Stakeholders among nano: Industry, Government, Academia, and Public

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NGO => Non-Governmental Organization



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- How do NGOs seek to influence regulatory policy and industry practices regarding engineered nanomaterials?



Friends of the Earth



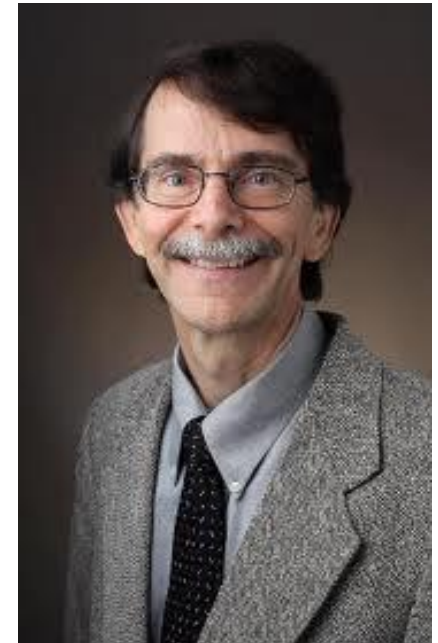
GREENPEACE



Finding the ways that work

David J Hess Ph.D. - Vanderbilt University

- “Environmental Reform Organizations and Undone Science in the U.S.: Exploring the Environmental, Health, and Safety (EH&S) Implications of Nanotechnology - June 2010
- Report states:
 - Environmental Reform Organizations have had significant impacts on policy outcomes.



Data Compilation

- Example NGO: Greenpeace
 - <http://www.greenpeace.org/usa/en/>
- Download published works:
 - Articles, Reports, Journals
- Compile information into a summary report

Research Report



NGO

summary/history

Organization: Greenpeace, UK

Greenpeace is an international action group that is independent in its claimed mission to protect the health and safety of the global environment. The organization proclaims that they exist to be the "voice" for the Earth. The organization began back in 1971 in an effort to "'bear-witness'" to a US nuclear detonation on a little island off the coast Alaska, with the success of bringing public awareness and outcry over the event. The organization claims to represent earth and the environment, as well as many of the life forms that naturally inhabit the environment. The organization has a presence in over forty countries world wide and its main headquarters is located in Amsterdam, Netherlands. In general, the organization works towards their goal of a "green and peaceful world - an earth that is ecologically healthy and able to nurture life in all its diversity," by doing research, advocacy and promoting peaceful/non-violent action against governments and corporations that abuse the environment. They also work towards open forums to drive healthy debate and the possibility of working out viable solutions. The organization main interests and concerns are focused on climate change, oil drilling, deforestation, whaling and massive fishing, nuclear power and weapons, and pollution.

Nanotechnology, though is one of their concerns, is not high on the list of interests Greenpeace works toward. Overall Greenpeace is solely concerned about the environmental health and safety issues surrounding nanotechnology. The organization is concerned with the research and developmental stage in the nanotech life-cycle, and more importantly how the industry prioritizes the environment when developing these technologies. In the long run Greenpeace is more looking at the product end-of-life of the cycle and how nanoparticles will affect the environment. The target of these endeavors is the nanotech industry in general, as they hope to create a moratorium on the industry until viable data can be shown that nanotechnology has no significant impact on the environment or its inhabitants.

Greenpeace claims to have a member base of up to 2.9 million members worldwide. Each office around the world selects a board to run the local office and potential issues. The board then selects one its members to be on the board of trustees for the entire organization. The trustees meet once a year to construct a budget, fix structural issues and converse on which issues have priority. Green peace is a non-profit organization (non-profit 501(c)3) so their funding comes from charitable donations of their members. They do not allow donations from governments, corporations or political parties.

Activities: (Name, Date – Description)

- **Report: Future Technologies, Today's Choices** – July 2003 – Discusses the technical side of nanotechnology, its possible benefits in to diverse areas, the reality [in Greenpeace's point of view] and hype around the technology and possible concerns that stem from the development of the technology.
- **Action: Nano Jury** – May 2005 – Greenpeace puts together a citizen's jury to look at how the public believes nanotechnology should be developed.
- **Press Release: Hazardous Materials Found in Apple's iPhone** – October 2007 -

Research Report



Organization: Greenpeace, UK

NGO membership

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NGO concerns



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NGO action



127 NGOs in database

60 actively engaged in nanotechnology policy



CANADIAN ENVIRONMENTAL
LAW ASSOCIATION



The Center for International
Environmental Law



Soil Association



Organization (Nation)	Goal	Nano Focus	Target
Beyond Pesticides (U.S.)	Implement policy of nano in FDA	Silver Nanoparticles	EPA and FDA
Environmental Defense (U.S.)	Partner w/Gov. & Corp. for policy	EH&S	U.S. Gov., Industry, EPA and FDA
Project on Emerging Nanotechnology (U.S.)	Partner w/Gov. & Corp. for policy	EH&S	U.S. Government, EPA
Silicon Valley Toxics Coalition (U.S.)	Partner w/Gov. & public for policy	waste w/ electronics & lifecycle	U.S. Government and Public
Loka Institue (U.S.)	Influence Gov. & Industry	EH&S	Public & Government
Physicians and Scientists for Global Responsibilty (N.Z.)	Regulatory Change	EH&S	Local Government
Canadian Environmental Law Association (Canada)	Local Policy Change	EH&S	Local Government
Soil Association (U.K.)	Ban food products with nano	EH&S	Food Industry and Farmers
Nanotechnology Industries Association (W.W.)	Maximize communitis knowledge	Promotion of nano	Consumers & Government
Center for Responsible Nanotechnology (W.W.)	Enact Governmental policy	EH&S	Government
Erosion, Technology and Concentration Group (W.W.)	Moratorium	EH&S, nano life cycle	International Governments
Friends of the Earth (W.W.)	More EH&S research	More EH&S research	Government and Industry
Greenpeace (W.W.)	Moratorium	EH&S, nano life cycle	Nano Industry
Institute for Agriculture and Trade Policy (W.W.)	Implement policy of nano in FDA	EH&S	FDA and U.S. Government
International Center for Technology Assesment (W.W.)	Moratorium	EH&S, nano life cycle	EPA and FDA
National Resources Defence Council (W.W.)	EH&S research, Reg. Change	More EH&S research	Government
Center for Inernational Environmental Law (W.W.)	Influence international regulations	EH&S	International Governments

Organization (Nation)	Nano Focus
Beyond Pesticides (U.S.)	Silver Nanoparticles
Environmental Defense (U.S.)	EH&S
Project on Emerging Nanotechnology (U.S.)	EH&S
Silicon Valley Toxics Coalition (U.S.)	Waste w/ electronics & lifecycle
Loka Institue (U.S.)	EH&S
Physicians and Scientists for Global Responsibilty (N.Z.)	EH&S
Canadian Environmental Law Association (Canada)	EH&S
Soil Association (U.K.)	EH&S
Nanotechnology Industries Association (W.W.)	Promotion of Nano
Center for Responsible Nanotechnology (W.W.)	EH&S
Erosion, Technology and Concentration Group (W.W.)	EH&S, nano life cycle
Friends of the Earth (W.W.)	More EH&S research
Greenpeace (W.W.)	EH&S, nano life cycle
Institute for Agriculture and Trade Policy (W.W.)	EH&S
International Center for Technology Assesment (W.W.)	EH&S, nano life cycle
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Physicians and Scientists for Global Responsibilty (N.Z.)	EH&S
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Project on Emerging Nanotechnology (U.S.)	EH&S
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Physicians and Scientists for Global Responsibilty (N.Z.)	EH&S
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Organization (Nation)	Goal
Beyond Pesticides (U.S.)	Implement policy of nano in FDA
Environmental Defense (U.S.)	Partner w/ Gov. and Corp. for policy
Project on Emerging Nanotechnology (U.S.)	Partner w/ Gov. and Corp. for policy
Silicon Valley Toxics Coalition (U.S.)	Partner w/ Gov. & public for policy
Loka Institue (U.S.)	Influence Gov. & Industry
Physicians and Scientists for Global Responsibilty (N.Z.)	Regulatory Change
Canadian Environmental Law Association (Canada)	Local policy change
Soil Association (U.K.)	Ban food products with nanoparticles
Nanotechnology Industries Association (W.W.)	Maximize communities understanding
Center for Responsible Nanotechnology (W.W.)	Enact Governmental policy
Erosion, Technology and Concentration Group (W.W.)	Moratorium
Friends of the Earth (W.W.)	More EH&S research
Greenpeace (W.W.)	Moratorium
Institute for Agriculture and Trade Policy (W.W.)	Implement policy of nano in FDA
International Center for Technology Assesment (W.W.)	Moratorium
National Resources Defence Council (W.W.)	EH&S research, Regulatory Change
Center for Inernational Environmental Law (W.W.)	Influence international regulations

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Silicon Valley Toxics Coalition (U.S.)	Partner w/ Gov. & public for policy
Loka Institue (U.S.)	Influence Gov. & Industry
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Center for Inernational Environmental Law (W.W.)	Influence international regulations

Organization (Nation)	Target
Beyond Pesticides (U.S.)	EPA and FDA
Environmental Defense (U.S.)	U.S. Gov., Industry, EPA and FDA
Project on Emerging Nanotechnology (U.S.)	U.S. Government, EPA
Silicon Valley Toxics Coalition (U.S.)	U.S. Government and Public
Loka Institue (U.S.)	Public & Government
Physicians and Scientists for Global Responsibility (N.Z.)	Local Government
Canadian Environmental Law Association (Canada)	Local Government
Soil Association (U.K.)	Food Industry and Farmers
Nanotechnology Industries Association (W.W.)	Consumers & Government
Center for Responsible Nanotechnology (W.W.)	Government
Erosion, Technology and Concentration Group (W.W.)	International Governments
Friends of the Earth (W.W.)	Government and Industry
Greenpeace (W.W.)	Nano Industry
Institute for Agriculture and Trade Policy (W.W.)	FDA and U.S. Government
International Center for Technology Assessment (W.W.)	EPA and FDA
National Resources Defence Council (W.W.)	Government
Center for International Environmental Law (W.W.)	International Governments

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Project on Emerging Nanotechnology (U.S.)	U.S. Government, EPA
Silicon Valley Toxics Coalition (U.S.)	U.S. Government and Public
Loka Institue (U.S.)	Public & Government
Physicians and Scientists for Global Responsibilty (N.Z.)	Local Government
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Soil Association (U.K.)	Food Industry and Farmers
Nanotechnology Industries Association (W.W.)	Consumers & Government
Center for Responsible Nanotechnology (W.W.)	Government
Erosion, Technology and Concentration Group (W.W.)	International Governments
Friends of the Earth (W.W.)	Government and Industry
Greenpeace (W.W.)	Nano Industry
Institute for Agriculture and Trade Policy (W.W.)	FDA and U.S. Government
International Center for Technology Assesment (W.W.)	EPA and FDA
National Resources Defence Council (W.W.)	Government
Center for Inernational Environmental Law (W.W.)	International Governments

How do NGOs seek to influence regulatory policy and industry practices regarding engineered nanomaterials?

- Write Reports, publish journals, and give press releases
- Engage in conversation with congress & governmental organizations
- Change public opinion
- Collaborate with industry

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- Litigation
 - Suit against Food and Drug Administration by NGOs – Jan. 2012

NGOs are concerned with EH&S

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Silicon Valley Toxics Coalition (U.S.)	Waste w/ electronics & lifecycle
Loka Institue (U.S.)	EH&S
Physicians and Scientists for Global Responsibilty (N.Z.)	EH&S
Canadian Environmental Law Association (Canada)	EH&S
Soil Association (U.K.)	EH&S
Nanotechnology Industries Association (W.W.)	Promotion of Nano
Center for Responsible Nanotechnology (W.W.)	EH&S
Erosion, Technology and Concentration Group (W.W.)	EH&S, nano life cycle
Friends of the Earth (W.W.)	More EH&S research
Greenpeace (W.W.)	EH&S, nano life cycle
Institute for Agriculture and Trade Policy (W.W.)	EH&S
International Center for Technology Assesment (W.W.)	EH&S, nano life cycle
National Resources Defence Council (W.W.)	More EH&S research
Center for Inernational Environmental Law (W.W.)	EH&S

Future Research Possibilities:

Are specific nanomaterials being targeted?

Organization (Nation)	Nano Focus
Beyond Pesticides (U.S.)	Silver Nanoparticles
Environmental Defense (U.S.)	EH&S
Project on Emerging Nanotechnology (U.S.)	EH&S
Silicon Valley Toxics Coalition (U.S.)	Waste w/ electronics & lifecycle
Loka Institue (U.S.)	EH&S
Physicians and Scientists for Global Responsibility (N.Z.)	EH&S
Canadian Environmental Law Association (Canada)	EH&S
Soil Association (U.K.)	EH&S
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Center for International Environmental Law (W.W.)	EH&S

Future Research Possibilities:

Which target is having most progress in the regulatory process?

Organization (Nation)	Target
Beyond Pesticides (U.S.)	EPA and FDA
Environmental Defense (U.S.)	U.S. Gov., Industry, EPA and FDA
Project on Emerging Nanotechnology (U.S.)	U.S. Government, EPA
Silicon Valley Toxics Coalition (U.S.)	U.S. Government and Public



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Project on Emerging Nanotechnology (U.S.)	U.S. Government, EPA
Silicon Valley Toxics Coalition (U.S.)	U.S. Government and Public



To Conclude

- Nanotechnology has great potential for society and the economy
- David Hess
 - Organized public have changed policy
- NGOs are concerned with Environmental Health and Safety
- Further research will tell us the impacts of NGOs on the nano industry

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