Technology Assessment

Ten lessons for a nanodialogue

How to be deadly serious and still have serious fun

December 2008

Rinie van Est, Bart Walhout & Lucien Hanssen

Rathenau Instituut

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Nanotechnology holds the promise of great advances. At the same time, it raises many legal, social and ethical questions. Dealing with these issues in good time will require public engagement and dialogue, which, however, are by no means easy to arrange. The Dutch Rathenau Institute has ten lessons to offer the government for initiating a nanodialogue.

Having the genetic modification (GM) controversy still fresh in their minds, policymakers, business and science communities are keen to avoid nanotechnology becoming 'the next GM'. One lesson from the GM debate is to take public engagement more 'upstream', to a point early enough in the development process for a feasible change of direction, before stakeholders adopt entrenched positions and opinions become polarized [1]. Unfortunately, there is no ready-made blueprint for involving stakeholders, least of all the general public, in the nanotechnology debate. Few people really understand what nanotechnology is all about, let alone that nanoparticles are already in products on the market right now. And if people are aware of nanotechnology, what is the best way to discuss with them the hypothetical impacts of future developments? Moreover, unlike the GM debate, the precise focus of the nanotechnology discussion is far from obvious. Nanotechnology will have repercussions in many areas, from new materials and clean energy, to smaller computers and molecular medicines. This wide array of applications raises new issues of its own, alongside old chestnuts like privacy and north-south relationships. In short, there is no off-the-shelf formula for a public dialogue on nanotechnology that will benefit science policy and create public trust in regulating institutions [2].

No double Dutch

In view of the Dutch government's plans to initiate a public nanodialogue in 2009, answers are needed urgently as to how best to prepare for it. The Rathenau Institute, an independent body that advises the Dutch parliament, addresses this question in a recently published report [3]. Based on workshops with Dutch NGOs, an evaluation of five years of nanotechnology debate in the Netherlands and around the world, an overview of the agendas and views of national and international NGOs, and studies of public perceptions of nanotechnology, we have drawn up ten lessons for the government in initiating a nanodialogue.

There is no double Dutch in lesson 1: Differentiate between the risk issue and the broader nanotechnology debate. In considering the most appropriate role for the government, it is useful to distinguish between a debate focused solely on potential health and environmental risks of nanotechnology, and a broader one encompassing the legal, social and ethical impacts. Although these aspects are closely interrelated, they each call for a different government role and a different type of dialogue. With nanoproducts already entering the market, risk has become a 'downstream' issue. Risk governance doesn't ask for debate, but action.

The risk issue: being deadly serious

The nanotechnology community sells nano in terms of its health and environmental benefits. This would not be a problem if the safety issues of engineered nanomaterials were being addressed too, but there are serious doubts about whether current efforts will be enough. A new technology can be called successful only if its enactors can show

that it is safe. A government that takes nano seriously cannot ignore early warnings of safety problems [4]. This underlines lesson 2: Actively address the risk issue. Any lack of government initiative on this point will undermine the legitimacy of the broader public nanotechnology dialogue. Nano-advocates who insist that risk regulation is bad for business only cloud the waters, when it is clarity of thought and government action that are needed. Lesson 3: Involve NGOs in policy. Alongside representatives of science and business, policymakers should also involve NGOs in risk assessment and management. For one thing, they will bring in much-needed practical knowledge. Lesson 4: Provide clear information about nanotechnology products, the risk governance strategy and the remaining uncertainties. If the government is to maintain public trust and authority, it is crucial to provide clear information about the relevant products and risk governance strategies. The government should be open about any remaining uncertainties in the potential risks of nanoparticles to human and environmental health.

The broader debate: having serious fun

But far more is at stake than the risk issue alone. Yet the tendency among experts and government officials is to ignore broader issues of the character and direction of technological change [5]. It is to be hoped that, with nanotechnology, policymakers will not repeat past mistakes. Actually, the broader nanodebate is about how nanotechnology, biotechnology, information technology and cognitive sciences are merging, in what is known as NBIC convergence, and about the related impact on society. The central question is how this next technology wave might contribute to a better future world. This broader debate represents a true opportunity for upstream public engagement in science.

The recommendations for the role of the government in this broader debate are: Lesson 5: Create a public agenda which meets wide support. An agenda which enjoys broad support is an essential precondition to any useful public debate about nanotechnology. The dialogue must be fully open, and the input of all participants must be respected. Lesson 6: Build upon ongoing discussions wherever possible. Establish what is to be discussed under the nanotechnology heading, and which issues would be more appropriately examined within other, already existing discourses, such as human enhancement, ambient intelligence, or screening society. The resulting dialogue will be more manageable and likely to promote the participation of existing institutions and societal organizations. Lesson 7: Facilitate the engagement of smaller NGOs. If these groups are to be well prepared for dialogue, the government should help them with ‘capacity building’, to develop the necessary assertiveness and expertise to engage productively. Lesson 8: Stay open to societal organizations' own agendas. Public dialogues invariably involve a variety of values and interests. Societal organisations often wish to include broader societal aspects in the debate. Failure to do so will create mistrust rather than trust. Lesson 9: Inform the public about the legal, social and ethical aspects of nanotechnology. The general public is still unaware of nanotechnology. It is important now for clear and accurate information about these societal aspects to become readily available to anyone wishing to learn more. Lesson 10: Give citizens a voice through small-scale engagement activities. Given the broad societal impact of nanotechnology, it is important to listen to the views of people from all walks of life and to be sensitive to public opinion. Focus groups and citizen panels can allow public voices to be heard in the discussion of nano-issues.

The conclusion is that the nanodebate has to be deadly serious about the ‘downstream’ risk issue. Lack of firm direction from the government is likely to undermine the legitimacy of the nanodebate as a whole. The nanodebate is also about actively shaping our common future. An upstream engagement process of this kind is about

clarifying challenges, creating visions, and mutual learning, and involves scientists, policymakers, citizens, NGOs and politicians. Doesn't that sound like a perfect opportunity for some serious fun?

References

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About the authors

Rinie van Est is coordinator and 'trendwatcher' with the Rathenau Institute's Technology Assessment division. He studied applied physics at Eindhoven University of Technology and political science at the University of Amsterdam. He was awarded his doctorate in 1999 for the thesis 'Winds of Change', which examined the interaction between politics, technology and economics with special reference to wind energy generation in California and Denmark. Van Est joined the Rathenau Institute in 1997 and is primarily concerned with emerging technologies such as nanotechnology, the cognitive sciences, Ambient Intelligence and virtual worlds. In addition to his work for the Rathenau Institute, he lectures in Technology Assessment and Foresight at Eindhoven University of Technology (Faculty of Technology Management).

Bart Walhout is a senior researcher with the Rathenau Institute's Technology Assessment division. His background is in electronics design. Bart Walhout studied Technology and Society at Eindhoven University of Technology, where his graduation project involved a study of government policy in relation to the social controversies raised by biotechnology. At the Rathenau Institute, he is engaged in projects dealing with nanotechnology and its convergence with biotechnology, information technology and the cognitive sciences.

Lucien Hanssen is the managing partner of *Deining Maatschappelijke Communicatie*, a research bureau which is primarily concerned with the wider societal communication of innovations in science and technology, and their implications for society and the human environment. The bureau's focus is therefore on the scientific uncertainties as they affect policy decisions, and the development of methods which can promote and facilitate public consultation. Alongside his work with Deining, Lucien Hanssen lectures in policy and communications at the universities of Twente, Wageningen and Nijmegen, where he is also engaged in various research projects.