

Governance of nanotechnology in need for strategy and capacity - Stimulating anticipatory governance on nanotechnology by Parliamentary Technology Assessment in the Netherlands

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Technology Assessment and the complex governance of nanotechnology

During several years nanotechnology has been a 'hot topic' for Technology Assessment. TA-practitioners have identified possible ethical, legal and social issues, organized debates, studied research and innovation dynamics, promoted reflexivity among researchers, investigated public attitudes, etc... These activities can range from understanding to intervening, but somehow they all aim at 'good governance' of nanotechnology. But 'the' governance of a broad and rapidly evolving area like nanotechnology emerges from a very complex arrangement of actors, technological developments, issues, stakes and uncertainties. It is not self-evident what the impact of TA-contributions is or should be.

In stimulating the good governance of nanotechnology TA-practitioners face three important and interrelated dilemmas. First the use of debating nanotechnology has been often framed as avoiding 'the next GM'. But while learning lessons of the biotech debates can be quite difficult, it is even more difficult to apply these lessons to a broad area like nanotechnology. At the same time splitting up application areas and issues is not so easy while in this phase of the debate nanotechnology is often discussed as a whole. Second, the most important lesson of the GM controversies seems the need to 'move public engagement upstream' (Wilsdon 2004), but although this is an inspiring and challenging concept, the concept itself does not provide a methodology to organise the required processes in a meaningful way. To have an impact it should take place early enough in the development process, before stakeholders adopt entrenched positions and opinions become polarized (Royal Society 2004). But apart from some small scale experiments it is very difficult to involve the public or even stakeholders in an early phase.

On top of these two difficulties for TA-practitioners it is government that has to make engagement seen as relevant. Although the transition from governing to governance is meant to escape from a technocratic top-down approach, it are governments that set the political context of governance functions: stimulating research and innovation, regulating technologies and products and stimulating dialogue for the decision making in both. Governments thus play a central role in stimulating good governance of nanotechnology. This has been recognised by the recent calls for 'anticipatory governance' like at the Center for Nanotechnology and Society at Arizona State University. At the CNS-ASU this concept is driven by the experiences with Real Time Technology Assessment (RTTA), see Guston (2007).

Parliamentary TA, institutional engagement and anticipatory governance

In my contribution I want to reflect on the activities of the Rathenau Institute, the Dutch parliamentary Technology Assessment organization, with respect to the concept of anticipatory governance. In the Netherlands there is another important TA-organisation active in the field of nanotechnology: TA-NanoNed, the TA-flagship of the Dutch nanotechnology consortium, led by Arie Rip. The TA-NanoNed uses the Constructive Technology Assessment (CTA) approach which aims at broadening the perspective of research programs. In distinction from TA-NanoNed the Rathenau Institute has focused on the political context of nanotechnology. For example, the Rathenau Institute has been very active in putting the possible risks of nanomaterials on the policy agenda, for sure a core aspect of stimulating anticipatory governance of nanotechnology.

The same is true for stimulating societal dialogue on nanotechnology, the governance function that the Rathenau Institute contributes to from the beginning of its activities on nanotechnology. Policymakers have committed themselves to initiate dialogue, although it is

unclear how such a dialogue can be set up in a meaningful way or whether people will be interested in joining it. However there are various lessons which already can be drawn from the debate on nanotechnology thus far. Any public dialogue on nanotechnology being set up now will take place in the context of a worldwide, complex and layered debate on the societal impact of nanotechnology. Hence the analysis of this context can reveal which conditions for engagement processes currently have to be met.

Anticipating the start of a public dialogue to be organised by the Dutch government in 2009, we addressed the question how to best prepare for this in a recently published report called 'Ten lessons for a nanodialogue' (Hanssen 2008). In this study we analysed the development of various discourses: first we have evaluated the agenda setting activities of a relatively small circle of trend watchers, engaged (social) scientists, think tanks and technology assessment organisations. Which issues have been drawn up by these experts and which issues are addressed at policy agendas? Second we provide an overview of the views of (inter)national NGOs on nanotechnology, regulation and public dialogue. Finally, the study includes studies of public perceptions of nanotechnology. Based on these findings we have drawn up ten lessons for the Dutch government to set up a meaningful debate on nanotechnology.

As such our 'lessons for a nanodialogue' do provide a list of conditions that have to be met for meaningful public engagement. The first and most important lesson is to differentiate between the debate which focuses on the potential health and environmental risks of nanomaterials and the broader societal debate which considers the general impact of nanotechnology on society. Although these aspects are not entirely unrelated, they do call for different roles adopted by the government and for a different type of dialogue. Second the risk issue requires firm governmental direction, including the facilitation of small NGOs and the provision of clear information about nanotechnology products, the risk governance strategy and the uncertainties. If these conditions are not met any dialogue on nanotechnology is likely to be dominated by the risk issue which requires action rather than public debate.

At the same time far more is at stake than the risk issue alone. The broad societal impact of nanotechnology is about how nanotechnology, biotechnology, information technology and cognitive science are merging, known as NBIC-convergence. Opening up the debate on how this next technology wave might contribute to a better future world does represent a true opportunity for upstream public engagement. But this does not automatically call for organising a series of public dialogue initiatives under the all-embracing heading of 'nanotechnology'. For example, the issue of privacy is already addressed in discussions about RFID and Ambient Intelligence.

Stimulating institutional engagement: building strategy and capacity

The above case points out that governments themselves have to move upstream to meet the conditions for meaningful broader engagement on nanotechnology. It should be recognised that there are not many people out there - whether experts, stakeholders or citizens – that are simply waiting to be involved. Involvement needs to be seen as relevant. Clearly acting on the risk issue, parcelling out broader social and ethical issues and connecting some of the lots to already existing discussions may provide a way out of the current dilemmas in initiating public dialogue on nanotechnology. This requires a dedicated strategy of the government and capacity building for the institutions and organisations to be involved. Initiating public engagement activities without broader institutional engagement will else turn out to be unsatisfactory. While identifying such conditions of governance processes can be part of any TA project, parliamentary TA is dedicated to link these results to the political debate in order to stimulate institutional engagement. As such pTA can make an important contribution to anticipatory governance.

References

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