

Introduction

Throughout the last decades, the ever growing use of technology in our society has brought along the need to reflect on the related impact on the ecosystem and on society as such. There is growing evidence that the complexity of issues of risk governance and ethics coming with applications of nuclear technology, fossil fuels, human cloning and genetically modified crops cannot be tackled by pure rational technological and economical reasoning alone. In order to provide an answer to the concerns of civil society, this complexity needs a transdisciplinary approach, taking into account social and ethical aspects.

Starting from the insight that a full understanding of the benefits and risks of applications of radioactivity and nuclear technology requires also an understanding of the context of application and a sense for the social and ethical aspects of the situation, SCK•CEN started in 1999 with its PISA research programme (Programme of Integration of Social Aspects into nuclear research). The aim of the research was (and still is) to give the nuclear researchers more insight into the complex social and ethical aspects of nuclear applications and to shed at the same time new lights on how to organise in a more effective way the dialogue and interaction with civil society.

Originally, the programme was set up along thematic research tracks, involving nuclear scientists, engineers, philosophers and social scientists, and focussing on specific projects carried out by way of PhD- or post-doc research in cooperation with universities. The research tracks focussed on themes such as Sustainability and nuclear development, Transgenerational ethics of radioactive waste management, Legal aspects and liability, Risk governance and Expert culture. In addition to this thematic research, PISA organised reflection groups in interaction with universities, authorities and private actors. These interdisciplinary discussion sessions aimed to exchange knowledge and views on typical 'cross-cutting issues' such as Ethical choices in radiological protection, Ethics of the expert, Involvement and Justification. Some focussed on actualities such as nuclear terrorism and ICRP proposals on basic safety standards (BSS).

Future orientation and focus

Based on the experience gained in the thematic track research, and taking into account the growing need to involve civil society into decision making on complex societal problems, PISA decided in 2006 to concentrate on this theme and on the related aspects of risk governance and democratic decision making. Still today, the science of technology assessment under-estimates the importance of joint problem framing, an exercise that should precede joint problem solving also in the case of energy policy and radioactive waste management. This transdisciplinary problem framing could deliver not only the necessary trust in the negotiation process as such, but also insight into how theories of deliberative democracy can be applied in the 'real world'.

2006 research activities

2006 saw the successful completion of the PhD research 'Nuclear energy and sustainable development – towards a better support for decision making' by Erik Laes (see highlight 1). PISA organised a first Extern-E workshop together with JRC Ispra, VITO, the Vlaamse Milieumaatschappij and the University of Utrecht with the aim of evaluating the use of the Extern-E method for the assessment of a major nuclear accident in Belgium. Researchers followed and contributed to the Chernobyl debate that, on the occasion of the 20th anniversary, was held in several institutions and media in Belgium.

On an international level, PISA focussed on social aspects of technology assessment and risk governance, in particular on involvement of civil society and on ALARA and safety culture. In this respect, researchers contributed to activities such as the EC FISA conference, a Harvard University workshop on risk communication, and those of the French Society for Radiological Protection and of the European ALARA Network. In the last network, PISA researchers were able to stimulate reflection on a new definition of ALARA culture, based on the PhD study "Investigating safety culture according to a social science approach" that was finished in 2005.

In the COWAM2 project (Community Waste Management) of the European Commission's Sixth Framework Programme, guidance was provided on the use of participatory technology assessment tools in the context of local dialogues on radioactive waste management. This project was completed in this third and final year (see highlight 2). In the European Socio-Economic Research on Fusion (SERF), research focussed on the use of long-term global energy scenarios as communication instruments. Throughout the years, PISA researchers also observed the international negotiation processes within the United Nations Commission on Sustainable Development (CSD) and the United Nations Framework Convention on Climate Change (FCCC).

Highlights 2006

"Nuclear energy and sustainable development – towards a better support for decision making." -

Erik Laes

"Long term governance of radioactive waste - research and guidance on governance methodologies." -

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