

Background

In 2005, the programme of integration of social sciences into nuclear research participates in several research projects.

Objectives

It is the aim to apply transdisciplinary problem-oriented methods in PhD's work, in contract research, in international networking and to take challenging opportunities in conferences.

Principal results

1. Within the research track *Sustainability and Nuclear Development* a PhD thesis entitled "*Nuclear energy and sustainable development. Theoretical reflections and critical-interpretative research towards a better support for decision making*" is under preparation. The most salient results and findings of this work are:
 - the introduction of a particular philosophical framework (i.e. constructivism) for studying sustainability questions,
 - an analysis of the use of the sustainability principle in combined scientific-political practices (i.e. ExternE, the Belgian phase-out decision),
 - the development of guidelines for governance in the field of sustainable energy based on both theoretical and case-study research,
 - an evaluation of the practical implementation of this new governance model using participatory technology assessment tools.
2. In EC FP6 COWAM2 ("Community Waste Management"), guidance was provided on the use of participatory technology assessment tools in the context of local dialogues on radioactive waste management. A focus group was organised with Slovenian stakeholders. As in previous years, PISA researchers observed the international negotiation processes within the United Nations Commission on Sustainable Development (CSD) and the United Nations Framework Convention on Climate Change (FCCC). Seen through a participatory technology assessment lens, we can observe that negotiation processes on this global (international) level clearly still struggle with the issue of representative authority versus participation, resulting in the fact that negotiations between national authorities remain obstructed, while participation of major groups is relegated to a level of observation. Research on how principles of deliberative democracy can be implemented and used at this global level will continue, using the negotiations on the energy theme within the CSD and climate change and nuclear energy within the FCCC as case studies. Finally, a new project was started up by viWTA (the Flemish Institute for Technology Assessment), using a citizen panel to define and assess long-term energy scenarios for the Flemish region, in which SCK·CEN-PISA participates as a partner (together with Tri.Zone, Time-Out! and the University of Antwerp).
3. In the frame of the *Transgenerational Ethics and the Disposal of Radioactive Waste* research, Gunter Bombaerts valorised his PhD research "*Waste Depositionism, A philosophical inquiry on technoscientists and nuclear waste*" with lectures and book reviews. In this context, PISA organised also the colloquium "*Nuclear waste management and the social scope of its decision-making*" in collaboration with Ghent University. In a related project, Gunter Bombaerts applied the RISCUM model to the nuclear low-level waste partnerships in Belgium. The RISCUM model and the Belgian partnership model for low level waste were compared. International discussions with the RISCUM authors and with MONA partnership (Mol) in Belgium gave concrete input that can be summarised in four points: (1) A broad national public debate on the participation experiments preceding the start of the participation process is needed. (2) The local participation should also focus on the intercommunity level. (3) A guardian of the process at the national level seems missing. (4) The partnership model focuses largely on the local level, ignoring the regional and federal level.
4. In SERF3 ("Socio-Economic Research on Fusion"), research looked at how the results of energy modelling can be used in communication on fusion energy scenarios, analysing the different views with respect to modelling results. In this frame, interviews and focus groups have been carried out throughout 2005, as it was also done in the framework of COWAM2 in order to contribute to long term governance.

5. Within the *Ethics and Expert Culture* research track, the main research topics of Michel Bovy were the funding for decommissioning activities, the involvement of local stakeholders and the sense of justice as embodied value in expert's assessments. Within COWAM2, attention was given to the importance of long term generations and the responsibilities towards society. Research also contributed to a project on the ethical approach of the funding management for decommissioning activities in collaboration with the Working Group for Decommissioning and Dismantling Activities (WPPDD of NEA/OECD). The results of a previous inquiry on expert culture were discussed at the French Institut de Radioprotection et de Sûreté Nucléaire (IRSN) and the preparation of a new public opinion survey on risk perception was started in collaboration with the university of Antwerp, focused on aspects related with nuclear technology. Our new "2006 Risk barometer" builds on the experiences with our 2002 barometer, organised in parallel with IRSN, and will focus more on emergency preparedness and waste aspects.
6. The *Legal aspects and Liability* research was focalised on the further implementation of the Precautionary Principle in nuclear law and practice. The Phd thesis of Chloée Degros at the Catholic University of Leuven, Louvain-la-Neuve (UCL) on the safety regulation of nuclear installations took further shape in exploring how the many soft law instruments (as e.g. the Safety Series IAEA) are implemented and controlled. The final work will be done at UCL and shall concentrate on the responsibilities following administrative, criminal and civil law. In particular the role of Peer Review and Third Party control on "Best Practices" will be examined. The *Legal aspects and Liability* staff will assist in streamlining the knowledge centre around the central themes: the Precautionary Principle, Involvement and Participation, Sustainable Development, as the role of Human Sciences in bridging the gap between experts and lay people concerning nuclear risks (with a focus on nuclear waste) has shown to be essential in today's risk society. Ludo Veuchelen will continue to question the link between nuclear law and environmental law and is chairing the Working Group on licensing and decommissioning of the INLA (International Nuclear Law Association) and of the Legal Advisory Committee of ELINI (European Liability Insurance for the Nuclear Industry).

Future work

Activities of PISA will focus more and more on the improvement of particular risk management issues within the framework of sustainable development (SuND). Due to limited resources risk perception, governance and the policy related to the precaution principle will receive higher priority than philosophical and legal issues.

Involvement research such as COWAM and FUSION contract work on participation, as well as the Risk barometer, will remain research headlines within PISA.

The reflection groups will continue to challenge universities towards more second mode science. The programme contains PhD valorisation on Nuclear Sustainability and participative TA at KUL. The issue of uncertainty within risk assessment and precaution will be considered with JRC ISPRA and universities in the Netherlands. PISA will examine uncertainties in Extern E nuclear cost externalities as well as employment perspectives in the nuclear sector. Together with the VUB, PISA will organise a new series of lunch talks on energy policy and nuclear phase-out. At UCL the finalisation of a PhD on nuclear safety regulation will be taken up as a workshop topic. Finally the viWTA study on the history of nuclear controversies will be discussed within SCK•CEN, in order to test the feasibility of the reflection group concept for internal dialogue.

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