

ANNEX

1. LIST OF COMMISSION RESEARCH ACTIVITIES

1.1. Joint Research Centre, Institute for Environment and Sustainability: Research on emissions in the Accession Countries

- Establishment of a wide network of partners from the Accession Countries (more than 100 by late 2002, of which 50 relevant to dioxins) from which 17 were directly nominated by the Ministries in order to participate in dioxin relevant activities.
- Co-organisation of the Workshop on "Dioxins in the Air" held in Bruges, Belgium on November 19-20, 2001, with 12 participants from the Accession Countries.
- Assessment of dioxin emission inventories in the Accession Countries, including sources (JRC report EUR 20779 EN).
- Study on policies and measures for dioxin emission reduction in the Accession Countries (JRC report EUR 20779 EN).
- Participation of four Accession Countries laboratories to an international inter-comparison exercise on dioxin analysis in 2002 (JRC report EUR 20779 EN).
- Training workshop on the "Determination of Dioxins in Industrial Emissions" with the participation of 34 CC scientists. The proceedings of the workshop are available as EUR report (JRC report EUR 20538 EN) and were widely distributed in the Accession Countries.
- Co-organisation of the Conference on Emission Monitoring CEM-2002 held in Odense, Denmark, September 11-13 2002 by funding the participation of 20 experts from the Accession Countries.
- First assessment of dioxin and PCB content in butter samples collected in the Accession Countries.
- Expert workshop on the "Contribution of the small sources to the dioxin emissions in Candidate Countries" held on the 21 June 2002 at the JRC, Ispra.
- Preparation of a programme for Air Quality campaigns in the CCs for the assessment of the contribution of solid fuel burning (small sources, stoves, etc.) to dioxin emissions. The first experimental/modelling approach is being attempted during the winter 2003-2004 in Poland in collaboration with the Krakow Inspectorate for Environmental Protection.
- Direct assessment of the contribution of solid fuels combustion in small sources to the dioxin emissions at the new JRC facility, developed specifically for this purpose. First experiments started in October 2003, although samples of soot from coal-burning domestic appliances from Poland and Czech Republic was analysed even earlier.
- Establishment of a network consisting of experts from the Accession Countries to assess retrospective and future contamination trends for dioxins and related compounds. The study will be available in 2004.

1.2. Joint Research Centre, Institute for Environment and Sustainability: Research on soil and waste

- Recycling of oils and fats and the potential human exposure with dioxins (a local case study in northern Italy): Vegetable oils and fats collected in for re-use in feedstuff preparation were collected from public and commercial collection systems and are being analysed for dioxins, furans and dioxin-like PCBs.
- Olive oil production methods and treatment of production wastes with regard to dioxin releases into the environment and the food chain (local project in northern Italy): Samples from all process steps of a solvent extraction plant for olive pressing residues were collected and are being analysed for dioxins, furans and dioxin-like PCBs.
- Impact of different amendment practices on the dioxin content in agricultural soils – recycled agricultural waste versus mineral fertiliser (case study): Soil profiles in German soil amended with different type of bio wastes (40 years with sewage sludge, compost, manure) were analysed for dioxins, furans and dioxin-like PCBs. The concentrations were compared to soils amended with mineral fertiliser. Preliminary results indicate that both compost and sewage sludge treatment significantly raises the contaminant's level. Manure treatment did not result in a contamination different from those found in the soils amended with mineral fertiliser. No significant differences were observed what concerns translocation into deeper soil layers.
- Time trends of dioxins, furans and dioxin-like PCBs in soil amended with sewage sludge in comparison to mineral fertiliser (case study). On the basis of a soil archive present at the agro-chemical facility of Bonn University (GER), time trends of dioxins, furans and dioxin-like PCBs in agricultural soils are under investigation within a period from 1960 to 2002.

1.3. Joint Research Centre, Institute for Reference Materials and Measurements: Research on screening methods and reference materials (recent activities ongoing from 2002)

- Participation in FP5 Shared Cost Action project “Difference” (<http://www.dioxins.nl>) evaluating a rapid screening test for the determination of dioxins and dioxin-like PCBs in food and feed (began 2002).
- Co-ordination of a validation study of a cell line based screening method (CALUX) for the determination of dioxins and dioxin-like PCBs in food and feed by conducting an inter-comparison study (January 2002–March 2003). This included a workshop for the participants of the trial to familiarise them with the method (report of the results of the study is available on request from IRMM).
- Organisation of a workshop with the participants of the inter-comparison study and experts in the field of dioxin analysis (November 2003).
- Participation in the joint symposium of the European Commission and the World Health Organisation on “Rapid Assays for Dioxins and PCBs” (15–16 December 2003).
- Development of a set of certified reference materials for PCBs in pork fat (IRMM-444, -445 and -446 and BCR-614 – nine solutions of PCDDs and PCDFs in *n*-nonane). The certified reference materials are intended as quality assurance tools, allowing laboratories involved in monitoring programmes to check the quality of the

data they produce. This should eventually lead to an improved comparability of monitoring data regarding dioxins, furans and PCBs across Europe.

1.4. Directorate-General for Research: Fifth RTD Framework programme

- prehensive risk analysis of dioxins: development of methodology to assess susceptibility to developmental disturbances and cancer (DIOXIN RISK ASSESSMENT) (Final report available on http://europa.eu.int/comm/research/endocrine/projects_completed_en.html).
- Food web uptake of persistent organic pollutants in the arctic marginal ice zone of the Barents Sea (FAMIZ) (http://www.io-warnemuende.de/projects/famiz/en_home.html)
- Evaluating human health risk from low dose and long-term PCB exposure (PCBRISK) (<http://www.pcbrisk.sk/>).
- Comparison of exposure-effect pathways to improve the assessment of human health risks of complex environmental mixtures of organohalogens (COMPARE) (<http://www.compare-project.info/>).
- Biopersistent organochlorines in diet and human fertility. Epidemiological studies of time to pregnancy and semen quality in Inuit and European populations (INUENDO) (see also <http://www.inuendo.dk/>).
- Exposure-outcome relationships in male urogenital malformations with special reference to endocrine disrupters (EXPORED) (http://europa.eu.int/comm/research/endocrine/projects_ongoing_en.html).
- Assessment of neurobehavioral endpoints and markers of neurotoxicant exposures. Studies aiming at (a) improving methods for the assessment of hazardous exposures and early detection of adverse effects on cognitive functions; and (b) applying these methods in determining developmental risks due to contaminated seafood (ANEMONE) (see also <http://www.anemone-project.dk/>).
- Bone development and homeostasis – critical targets in toxicology. Research to support test-method development and human health risk assessment for dioxins and other endocrine disrupting compounds in the food chain (BONETOX) (<http://www.imm.ki.se/bonetox/>)

1.5. Directorate-General for Research: Sixth RTD Framework programme

- Toxic threats to the developing nervous system: *in vivo* and *in vitro* studies on the effects of mixture of neurotoxic substances potentially contaminating food (DEVNERTOX).
- Chemicals as contaminants in the food chain: a NoE for research, risk assessment and education (CASCADE; under negotiation).

More information on ongoing research activities concerning PCBs and dioxins can be found on the DG Research Endocrine Disrupter Research website http://europa.eu.int/comm/research/endocrine/index_en.html.