

Write-up of the panel discussion, March 14, 2008

The panel discussion was opened with a statement by Regina Hitzenberger (moderator). Although the relationship between particulate matter and health effects is very complex, it is evident that during the duration of COST 633 we have learnt a lot. Tuomo Karjalainen (panel) pointed out emerging issues, which are connected with the role of ultra fine particles, the relation between indoor air (including special environments e.g. subways) and health effects, climate change, new emission sources, long term health effects, the validation of exposure models and emission inventories. Peter Rombout stated that we are only partly on the right track, because there are still gaps in knowledge. In Europe different PM regions exist and from the point of view of air quality and abatement strategies it would be very beneficial to know which parameter is responsible for health effects. Bert Brunekreef (panel) mentioned the important issues of transport, climate change, new technologies and changes in the new PM directive related to subtracting of natural background. Peter Bruckmann and Peter Rombout pointed out the need for political deliverables, which can be achieved by close collaboration between DG Environment, DG Research and national bodies. Thomas Kuhlbusch (panel) agreed that the most important open questions are related to ultra fine particles, identification of sources and integration of exposure assessment and source apportionment. Raimo Salonen (panel) stated that as we are now facing both climate change and changing sources (e.g. in the traffic sector), there is a need to monitor these changes in a systematic way. Harmonized studies are needed with priorities related to traffic, wood smoke and development of environmental technologies. Peter Bruckmann added that updated emission inventories are vital, because they are the input for models. However, there is practically no information on emissions of ultra fine particles and also on other relevant metrics. Michael Riediker suggested that for reducing health effects it is necessary to address the most toxic sources and not the largest one. He also mentioned that it is essential to evaluate new indicators e.g. oxidative stress. Peter Rombout agreed that it is crucial to first demonstrate with carefully designed studies, which is the relevant metric and then address policy makers. He also mentioned that handling of PM as one species is problematic. There is also a need to look more on special scales – e.g. problem of China for the Northern hemisphere, rural areas of Europe, regional areas, cities. There is a need for a top-down way of research politics. Andrej Kobe mentioned that such approach was done within CAFE and that DG Environment will try to follow this approach also in the future. Bert Brunekreef agreed with the idea that research needs have to be identified at the top and that scientists will then work on these problems. He also mentioned that regarding the question of new metrics it is necessary to think also from the point of view of implementation in monitoring. Technology for ultra-fine particles is available. Thomas Kuhlbusch agreed with him and added that we have to think about new indicators in the long run. Peter Bruckmann pointed out that strong evidence is necessary for the installation of new metrics and that the whole chain from source to health effect has to be taken into account. Tuomo Karjalainen mentioned that within FP it is not easy to perform top-down approach, because of competition of different topics. Thomas Kuhlbusch concluded that research platforms are going beyond PM. At this platforms different metrics can be tested, as well as different exposure routes, source related impacts.

Janja Turšič

Regina Hitzenberger