DustConf 2007: How to improve air quality

Preliminary programme

International Conference in Maastricht, The Netherlands 23 - 24 April 2007

DustConf 2007 is a conference about the reduction of air pollution, caused by particulate matter. The conference will provide an exchange of information between research, industry and government. The focus of DustConf 2007 will be on technical measures and government policy to reduce emissions from industrial activities, from agriculture and from other stationary sources of particulate matter like domestic heating. More information: www.dustconf.org

At this moment (January 2007) a preliminary programme is available. In the conference there will be keynote presentations, posters and parallel sessions.
There will be four parallel sessions with several presentations per parallel session. In each separate session three different topics will be discussed: General topics, Industrial sources and Agricultural sources.

Preliminary programme

Sunday 22 April 2007

16.30 – 19.00 Welcome reception and registration.

Monday 23 April 2007

8.30 – 9.30 Registration

9.30 – 9.50 Opening of the conference by the Dutch minister of Housing, Spatial Planning and the Environment

9.50 – 10.30 Health effect of Particulate Matter and consequences for policy
Mr Bert Brunekreef, Institute for Risk Assessment Sciences, Utrecht University, The Netherlands

10.30 – 11.15 Coffee break and postersessions

VROM

landbouw, natuur en voedselkwaliteit

Umwelt Bundes Amt
Für Mensch und Umwelt

Vlaamse overheid

ANIMAL SCIENCES GROUP
WAGENINGEN UR

SenterNovem InfoMil

VITO

ADEME

11.15 – 11.55 **Trends in emissions of air pollutants and evolvement of air quality in Europe**
Ms Anke Lükewille, European Environment Agency, Denmark

11.55 – 12.30 **Review of the European Air Quality Directive**
Mr Gerwin Dumont, VMM and Belgian Interregional Environment Agency (IRCELINE), Belgium

12.30 – 14.00 **Lunch break and postersessions**

14.00 – 15.20 **Parallel sessions**
S1 National Policies, measures for local government, spatial planning
S2 Basic metal production, mineral industry
S3 Emissions from Agriculture

15.20- 16.05 **Coffee break and postersessions**

16.05 – 17.45 **Parallel sessions**
S4 Domestic heating, combustion of solid fuels and waste
S5 Basic metal production, mineral industry
S6 Options for reduction in agriculture

Tuesday 24 April 2007

09.00-10.20 **Parallel sessions**
S7 Fugitive emissions, transport and construction related
S8 Large combustion plants, waste incineration, chemical industry
S9 Soil erosion

10.20 – 11.05 **Coffee break and postersessions**

11.05 – 12.45 **Parallel sessions**
S10 Quantification of emissions and PM2.5, PM1, nanoparticles secondary emissions
S11 Large combustion plants, waste incineration, chemical industry
S12 Dust emissions in agriculture: transmission and measuring methods

12.45 – 14.00 **Lunch break and postersessions**

14.00 – 15.30 **Plenary Feedback of the Parallel sessions**
Rapporteurs:
Policies, local measures, domestic heating and nanoparticles
- Mr Peter Builtjens, TNO, The Netherlands
- Mr Alfred Trukenmüller, Umweltbundesamt, Germany
- Mr Olivier Le Bihan, French National Institute for Industrial Environment and Risks (INERIS), France

Industry
- Mr André Peters Weem, SenterNovem/ InfoMil, The Netherlands
- Mr Filip Lefebre, Flemish Institute for Technological Research (VITO), Belgium

Agriculture
- Mr Daniel Berckmans Leuven University, Belgium
- Mr Erik Vranken, Leuven University, Belgium
- Mr André Aarnink, Wageningen University Research, The Netherlands

Keynote presentation
What are the lessons of DustConf for the development of local, national and EU policy?
Ms Marion Wichmann-Fiebig, Umweltbundesamt, Germany

15.30- 16.00 **Coffee Break and postersessions**

16.00 – 17.00 **Panel debate**

Closing concluding presentation

Session on General topics S1:
National Policies, measures for local government, spatial planning
Chairperson: Mr Bob Nieuwejaers

Assessment of Plans and Programmes under the Air Quality Framework Directive
Mr Christian Nagl, L. Moosmann, J. Schneider, Umweltbundesamt, Austria

Cost effectiveness of dust reduction options in the Netherlands
Mr Winand Smeets, Netherlands Environmental Assessment Agency (MNP), The Netherlands

Disentangling the PM problem – research to inform policy makers and stakeholders
Mr Rudi Torfs, Flemish Institute for Technological Research (VITO), Belgium

The importance of agricultural point sources for local scale air quality
Mr Albert Bleeker, Mr Andre Aarnink, A. van Lent, A. Kraai, Energy Research Centre of The Netherlands (ECN), The Netherlands

Session on Industrial sources S2:
Basic metal production, mineral industry
Chairperson: Mr Willem Waqué

The challenge for air quality management in North Rhine Westphalia with special focus on the steel production at Duisburg
Mr Wilhelm Kappert, Mr Peter Bruckmann, Mr Dieter Gladtke, Ms Sabine Wurzler, North Rhine-Westphalia State Environment Agency, Germany

New abatement technique of the atmospheric emissions of large Sinter plant. First results of industrial pilot in ARCELOR Fos sur mer
Mr Michel Depoux, M. Wajs ; ARCELOR Fos sur Mer, France

Efficient Reduction of PM 10 / 2.5 emissions at Iron Ore Sinter Plants
Mr Christof Lanzerstorfer, A. Fleischanderl, T. Plattner, Upper Austrian University of Applied Sciences, Austria

Fine dust - a challenge for Voestalpine
Mr Hannes Sigmund, Voestalpine AG, Austria

Session on Agricultural sources S3:
Emissions from Agriculture
Chairperson: Mr Daniel Berckmans

Agricultural Particulate Matter in The Netherlands
Mr Klaas van der Hoek, National Institute for Public Health and the Environment (RIVM), The Netherlands

Airborne particles within Australian and German piggeries. What are the differences
T. Banhazi and Mr Jens Seedorf, Division of Information Technology, Engineering and the Environment, University of South Australia; University of Veterinary Medicine Hannover, Germany

The effect of temperature and litter depth on ammonia, dust concentrations and broiler performance
Mr Ibrahim Al-Homidan, Qassim University, Saudi Arabia

Particulate emissions from deep-bedded growing-finishing pigs
Ms Angelika Haeussermann, Michael Götz, Eberhard Hartung, Christian-Albrechts-University Kiel, Germany

Session on General topics S4:
Domestic Heating, combustion of solid fuels and waste
Chairperson: Mr Martin Lutz

Effects of PM10 emission abatement strategies on air quality in urban and rural areas
Mr Peter Sturm, Graz University of Technology, Austria

Size distributions and emission factors of PM1 and PM2.5 during wood combustion in domestic fireplaces
Ms Gwénaëlle Trouvé, Fabien Ozil, Frédéric Haas, Upper Alsace University, France

Determining PM-emission fractions (PM10, PM2.5, PM1.0) from small scale combustion units and domestic stoves using different types of fuels including biofuels like wood pellets and energy grain
Mr Christian Ehrlich, G. Noll, W.D. Kalkoff, Saxony –Anhalt Environment Agency, Germany

Domestic heating – PM-Emissions and reduction measures in Germany
Ms Anja Behnke, Federal Environmental Agency (Umweltbundesamt), Germany

Reduction measures for stoves and district heating
Umweltbundesamt, Austria

Session on Industrial sources S5:
Basic metal production, mineral industry
Chairperson: Emmanuel Fiani

From emission to air quality: the Corus Steel case
Mr Rob Versfeld, Corus Steel, The Netherlands

Evaluation of methods to quantify fugitive dust sources in Flanders
Mr Nico Bleux, P. Berghmans, I. Liekens, F. Sleeuwaert, H. van Rompaey, C. Mensink and R. Torfs, Flemish Institute for Technological Research (VITO), Belgium;

How to abate diffuse emissions at a non-ferrous smelter
Mr Jan Kegels, Umicore, Belgium

Emissions of glass melting furnaces: what do we find in the flue gas downstream ESP
Ms Anna Dolores Berg, Mr Andreas Kasper, Mr Ernst Carduck, Ms Monika Manges, Mr Herbert Stadelmann, Mr Jürgen Klinkers; Saint Gobain, Germany

Aerosol size distribution determination from stack emissions: the case of a cement plant
Ms Isaline Fraboulet, X. Chaucherie, F. Gouriou, F. Gautier, N. Karoski, H. Thille, E Fiani, O. Le Bihan, French National Institute for Industrial Environment and Risks (INERIS), France

Session on Agricultural sources S6:
Options for reduction in Agriculture
Chairperson: Mr Jens Seedorf

Dust removal by waste air treatment systems at piggeries
Mr Jochen Hahne, Federal Agricultural Research Centre, Germany

Processes and factors influencing fine dust emission from livestock production
Mr André Aarnink, H.H. Ellen, Wageningen University Research, The Netherlands

Factors influencing dust reduction efficiency of spraying of oil-water mixtures in pig buildings
Hisamitsu Takai, Danish Inst. of Agricultural Sciences, Denmark

A new low cost technique to reduce concentration pollutants in animal houses
Ms Annamaria Costa, Faculty of Veterinary Medicine Milan, Italy

Electrostatic Space Charge System for Reducing Dust in Poultry Production Houses and the Hatchery
Mr Bailey Mitchell and Mr John W. Baumgartner; Electrostatic Space Charge Systems, LLC and Baumgartner Environics, Inc, USA

Session on General topics S7:
Fugitive emissions, transport and construction related
Chairperson: Mr Hendrik van Rompaey

An analysis of measured and modelled pm10 concentrations in a large industrialized area Rijnmond
Mr Hans Erbrink, KEMA, The Netherlands

Managing and monitoring fugitive dust emissions in the port of Rotterdam
Mr Ernest Vrins and Mr Sef van den Elshout, Vrins luchtonderzoek, DCMR, The Netherlands

Emission inventory for the construction industry
Croezen, CE, The Netherlands

Measurement method for emissions of particulate matter from seagoing vessels
Ms Aline Kraai, A. Hensen, G. Kos, J. Duyzer, H.Weststrate, H. Verhagen; Energy Research Centre of The Netherlands (ECN) and TNO, The Netherlands

Session on Industrial sources S8:
Large Combustion plants, waste incineration, chemical industry
Chairperson: Mr Jürgen Schneider

Aerosol Emission from Dutch Coal-fired power stations
Mr Ruud Meij, KEMA, The Netherlands

Impact of the future use of biomass on the PM10 concentration in the Netherlands
H. de Wilde and P.Kroon, Energy Research Centre of The Netherlands (ECN), The Netherlands

PM2.5 Emissions from Industrial Sources; Control by Means of High Efficiency ePTFE Membrane Filter Laminates
Mr Gernot G. Pranghofer, W. L. Gore & Associates GmbH, Germany

The use of hydroxyapatite for the removal of heavy metals from industrial flue gas PART B: Investigation at pilot scale
Mr Cedric Verwilghen, Ecole des Mines d'Albi, France

Session on Agricultural sources S9:
Soil erosion
Chairperson: Mr Geert Sterk

Wind erosion and related atmospheric dust concentrations in Europe: a review
Mr Geert Sterk, Erosion and Soil & Water Conservation group, Wageningen University Research, The Netherlands

Prediction of TSP and PM10 emissions from agricultural operations in Flanders, Belgium
Mr Pieter Bogman, Mr Wim Cornelis,Mr Donald Gabriels; Department Soil Management and Soil Care, Ghent University, Belgium

Particle Emissions of soils induced by agricultural field operations
Mr Torsten Hinz and Mr Roger Funk, Federal Agricultural Research Centre, Germany

Soil erosion; possibilities for reduction
Mr Roger Funk and mr Michel Riksen, Leibniz-Centre for Agricultural Landscape Research, Germany

Session on General topics S10:
Quantification of Emissions and PM2.5, PM1, nanoparticles secondary emissions
Chairperson: Ms Nadine Allemand

Quantification of Dust emissions from open air sources in large integrated steel plants
Ms Anne Pons, JL Harion, T. Badr, P. Le Louër, C. Ranty A. Ziebel, ARCELOR Dunkerque, France

Diffusive PM10 emission measurements. Some case studies
Mr Frans Debree, Bureau Blauw, The Netherlands

Tracking sources of aerosol pollution in Paris using a multi-isotope approach
Mr David Widory, Geological and Mining Research Bureau (BRGM), France

Quantification of diffusive and fugitive sources of PM10 by means of the integrated "Hot-Spot" method.
Mr Clemens Mensink, Flemish Institute for Technological Research (VITO), Belgium

Measurable Quantities in Ambient Particle Characterization: Future Needs Beyond PM10 and PM2.5
Mr Andreas Schmidt-Ott, Delft University of Technology, The Netherlands

Session on Industrial sources S11:
Large Combustion plants, waste incineration, chemical industry
Chairperson: Mr Karl Vrancken

Novel wet electrostatic precipitator for sub-micron particles
Mr Andrei Bologa, H.-R. Paur, H. Seifert, K. Woletz, Forschungszentrum Karlsruhe GmbH, Germany

Particulate emission reduction from road bitumen fumes by a novel process combining plasma treatment and filtration
Ms Stephanie Ognier, University Pierre and Marie Curie, France

Dust emissions from biomass boilers in Austria
Mr Thomas Krutzler, Umweltbundesamt, Austria

Dust removal of foundry cupolas: state of the art and improvement routes
P.Godinot and B. Duquet, CTIF, France

Session on Agricultural sources S12:
Dust emissions in agriculture: transmission and measuring methods
Chairperson: Hisamitsu Takai

Measuring protocol for determining fine dust emission factors for animal houses
Mr Peter Hofschreuder, Mr André Aarnink, Mr Nico Ogink, Wageningen University Research, The Netherlands

Characterization of volatile organic compounds and odorants associated with swine barn
Mr Jacek Koziel, Iowa State University, USA

Amounts and composition of airborne and sedimentation dust in farm animal houses
M. Saleh, Mr Jens Seedorf, Mr Jörg. Hartung, University of Veterinary Medicine Hannover, Germany

Emissions and dispersion of livestock-related biological aerosols
Mr Jens Seedorf, University of Veterinary Medicine Hannover, Germany

Effects on the aerosol transmission
D. Rosenthal, Bonn University, Germany

Posters on National Policies, measures for local government, spatial planning

Spatial planning and the air quality directives under Dutch Law – case study of the Rotterdam port extension.
Mr Sef van den Elshout, DCMR EPA Rijnmond, The Netherlands

The Styrian Emission And Air Quality Inventory For Pm10
Mr Dietmar Oettl, Federal State of Styria, Austria

Klagenfurts Anti PM10 Action Programme with Graz and the South Tyrol
Mr Wolfgang Hafner, City of Klagenfurt, Austria

Practical spatial development and balance
F. van Weert, Cauberg-Huygen Consultants, The Netherlands

Particulate Matter Management for the city of Hannover / Germany
Mr Michael Braungart, EPEA Environmental Research, Germany

Posters on Basic metal production, mineral industry

Fugitive dust emission calculation based on reverse dispersion modelling by use of measurements and two different dispersion models
Mr Achim Hugo, M. Beyer, D. Jarzyna, T. Kuhlbusch, U. Quass., IUTA e.V. Institute for Energy and Environmental Technology, Germany

Comparison between baghouse filter and electro-filter impacts on the characteristics of heavy metals emissions in a sintering plant
Y. Noack, M. Sammut, M. Depoux, A. Ziebel; Mr Paul Cézanne University - CEREGE and ARCELOR, France

Mapping the spatial distribution and inventory of heavy metal emissions by means of dust samples: case studies from two industrial sites in Albania
Ms Aurela Shtiza, A.Tashko, M. Elezi, R. Swennen, Leuven University, Belgium

Posters on Emissions from Agriculture

The influence of exposure time and air flow on dust sedimentation in the cattle stable
Mr Tomas Adamec, J.Dolejs, M.Dedina, O.Toufar,J. Nemeckova ; Researche Institute of Animal Production Prague, Czech Republic

Airborne dust formation (PM1, PM2.5, PM10, PM20) from different bedding materials in horse stables
Ms Kathrin Fleming, Engel F. Hessel, Mr Herman F.A. Van den Weghe, Mr Georg-August University Goettingen, Germany

Airborne Dust (PM 10) concentration in horse barns as a function of physical labour in the stable behaviour of horses ventilation and type of litter
Engel Hessel and F. A. Van den Weghe, University of Goettingen, Germany

Airborne Dust (PM 10) concentration in broiler houses as a function of fattening day daytime and indoor light
Engel Hessel and F. A. Van den Weghe, University of Goettingen, Germany

Forced ventilation systems on dust concentrations distribution in weaning confinement
Goran Topisirovic, Institute of Agricultural Engineering, Serbia

Posters on Domestic Heating, combustion of solid fuels and waste

Reducing dust emissions from domestic wood heating by introducing pellet technology
Mr Christian Rakos, proPellets, Austria

Overall dust emissions of district heating systems
Mr Sigmund Böhmer, Federal Environmental Agency (Umweltbundesamt), Austria

Microscale modelling of ambient air concentrations resulting from the use of solid biofuels in domestic heating
Mr Alfred Trukenmüller, Federal Environmental Agency (Umweltbundesamt), Germany

Ambient air pollution associated to domestic wood burning heating systems
Mr Marc Durif and Ms Isaline Fraboulet, French National Institute for Industrial Environment and Risks (INERIS), France

Posters on Options for reduction in Agriculture

Removal of PM10 and PM2.5 by combined air scrubbers in livestock operations
Mr Nico Ogink, Mr André Aarnink, Wageningen University Research, The Netherlands

DLG-SignumTest of Waste Air Purification Systems for Animal Husbandry Installations
Mr Sven Häuser and Mr Winfried Gramatte, DLG e.V, Germany

Air ionization and its effect on dust sedimentation in dairy cow stable
Mr Jan Dolejs, O.Toufar, M.Dedina, T.Adamec, J. Nemeckova; Researche Institute of Animal Production Prague, Czech Republic

Posters on Fugitive emissions, transport and construction related

Analysis of dust propagation and emission reduction possibilities during building blasting
Dufresne, Scientific and Technical Centre for the Construction Industry, France

Recycling of wood dust-laden atmospheres in workshops
Brahim Benamar, Mr Henri Poincaré University Nancy, France

Poster on Soil erosion

Application of the Fugitive Dust Model to estimate the wind erosion of heavy metal polluted soil top layers in large areas
Mr Bart van Beers, INGENIA Consultants & Engineers, The Netherlands

Posters on Quantification of Emissions and PM2.5, PM1, nanoparticles secondary emissions

Emission inventory and quantification of fugitive sources of total suspended particles (TSP) and respiratory aerosols (PM10 / 2.5) for the Flemish region (Belgium)
Mr Frank Sleeuwaert, R. Torfs, P. Berghmans, N. Bleux, G. Cosemans, I. Liekens, H. Van Rompaey; Flemish Institute for Technological Research (VITO), Belgium

Particulate matter monitoring by an Osiris dust monitors network in Nijmegen
Mr Wim van Doorn, Mr Henk Nijhuis and Mr Ernest Vrins., Primair Air Consultancy, The Netherlands

Trouble shooting in reduction plans – the role of meteorology and fugitive emissions
Mr Matthias Klingner, Ms Elke Sähn; Fraunhofer-Institute for Transportation and Infrastructure Systems, Germany

Quantification and validation of industrial primary and secondary PM emissions in a pilot study in the Netherlands
Mr Hugo Denier van der Gon, TNO, The Netherlands

Improved emission inventory of particulate matter for the Flemish region (Belgium)
Ms Caroline Polders, F. Sleeuwaert, L. Schrooten, I. De Vlieger, L. Janssen, E. Meynaerts, Ms Erika Meynaerts, V. Timmermans and V. Cornelis; Flemish Institute for Technological Research (VITO) and VMM, Belgium

Trends in fine and ultra fine particulate air pollution concentrations in Amsterdam, The Netherlands
Mr Dave de Jonge, Ms Saskia van der Zee , Mr Harald Helmink, Mr Jaap Visser, Department of Environmental Medicine, Municipal Health Service Amsterdam, The Netherlands

Environmental behaviour and chemical characterization of particulate matter (PM10, PM2.5, PM1) from different sources in Luxembourg
Mr Andreas Krein, Centre de Recherche Public - Gabriel Lippmann, Luxemburg

Few Superpolluters Dominate Urban Particulate Air Pollution
Mr Andreas Schmidt-Ott, Delft University of Technology, The Netherlands

Socio-economic effects of cold ironing
Mr Felix van der Meijden, Municipality The Hague, The Netherlands

Particle Metrics beyond PMx - What can be learned from number, surface and size distribution
Mr Hans-Georg Horn; TSI GmbH, Germany

Quantification of the impact of pm10 emissions on ambient concentrations
Mr Frank du Buy; Bureau Blauw, The Netherlands

Can we estimate PM-emission reductions from speed management policies?
Mr Luc Int Panis, Flemish Institute for Technological Research (VITO), Belgium

Continuous semi-volatile fraction measurement in PM10 and PM2.5
Mr Thomas Petry; Grimm Aerosol Technik GmbH, Germany

Size Distribution and Number Concentration of Ambient Nanoparticle in Different Area of Hsinchu, Taiwan
Tzu Ming Chen, Industrial Technology Research Institute, Taiwan

Mapping of emissions of particles by remote detection using compact lidars
L. Sauvage, LEOSPHERE Lidar Environmental Observations, France

PM10/2.5 mass concentrations in Lisbon: an epidemiological study in respiratory trends
Ms Maria Do Carmo Freitas, Technological and Nuclear Institute, Portugal

Posters on Large Combustion plants, waste incineration, chemical industry

The use of hydroxyapatite for the removal of heavy metals from flue gas. PART A: Investigation at laboratory scale
Mr Cedric Verwilghen, Ecole des Mines d'Albi, France

Presentation of the high voltage and high frequency generators for ESP used in an EDF thermal power plant in France
Mr Denis Dupas, SAMES technologies, France

Posters on Dust emissions in agriculture: transmission and measuring methods

Model aerosol transmission of respiratory pathogens
Mr Joe Hermann, Iowa State University, USA

Measuring Aerosol Particle Emission from Cattle Swine and Poultry using Wide Range SMPS and OPC
Mr Friedhelm Schneider, Grimm Aerosoltechnik GmbH & CoKG, Germany

Efficiency of High Oil Corn in Reducing the Severity of a PRRSV Challenge in Growing Pigs
Mr Brent Christopherson, South Dakota State University, USA

Emission factor from swine husbandry in Northern Italy: application of an accurate measuring method
Ms Annamaria Costa, Faculty of Veterinary Medicine Milan, Italy

Dust measurements – considering fluctuation factors
Mr Christoph Nannen, Bonn University, Germany

Estimate Particulate Emissions by Intermittent Measurements: A feasibility study
Mr Daniel Berckmans, Leuven University, Belgium

The Dutch Ministry of Housing, Spatial Planning and the Environment, the Dutch Ministry of Agriculture, Nature and Foodquality, Umweltbundesamt, Flemish Government: Environmental, Nature and Energy department, Agence de l'Environnement et de la Maîtrise de l'Energie, VITO, SenterNovem / InfoMil, Animal Sciences Group Wageningen UR