

WHO COLLABORATING CENTRE FOR AIR QUALITY MANAGEMENT AND AIR POLLUTION CONTROL at the FEDERAL ENVIRONMENT AGENCY, GERMANY

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EDITORIAL

53 countries set new European health roadmap for 2020 and beyond

At the sixty-second session the WHO Regional Committee for Europe held last September in Malta, health ministers and senior officials from the 53 European member countries adopted an ambitious long-term WHO European policy for health and well-being, Health 2020. This new European policy framework, aims to maximize opportunities for promoting population health and reducing health inequities. It recommends that European countries address population health through whole-of- society and whole-of-government approaches. The aim of the new European health policy is to turn the tide by addressing all the key factors simultaneously, including lifestyles, universal access to health care of appropriate quality and the root causes of ill health, the social determinants.

Health 2020 is built around four priorities:

1) investing in health through taking a life-course approach and empowering people; 2) tackling the Region's major health challenges: noncommunicable and communicable diseases; 3) strengthening people-centred health systems, public health capacities and emergency preparedness, surveillance and response; and 4) creating resilient

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communities and supportive environments.

The last priority is focused on the collaboration between environmental and health sectors to protect human health from the risks of a hazardous or contaminated environment, such as impacts of air pollution and climate change.

Further information on Health 2020 can be obtained from: http://www. euro.who.int/en/what-wedo/health-topics/healthpolicy/health-2020.



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Additonally, the new Health 2020 policy will provide the framework for Phase VI (2013-2018) of the WHO European Healthy Cities Network. Health 2020's strategic objectives include reducing inequality and better governance. Healthy Cities and local communities provide a key role in helping member states achieve the targets set by Health 2020. The Healthy Cities secretariat will begin work with the Advisory Committees and expert advisors in agreeing the core themes for the Phase VI framework and the transition for cities and National Networks to Phase VI.

The WHO European Healthy Cities Network consists of cities around the WHO European Region that are committed to health and sustainable development: more than 90 cities and towns from 30 countries. They are also linked through national, regional, metropolitan and thematic Healthy Cities networks. A city joins the WHO European Healthy Cities Network based on criteria that are renewed every five years. Healthy Cities is a global movement, with networks established in all six WHO regions.

Finally, with regard to the air quality and health aspects of this new WHO European health policy, it perfectly suits that the European Commission declares the coming year 2013 as ,Year of Air', in order to reach tighter air quality regulations and commitments across the European Union.

Andreas Gies and Hans-Guido Mücke WHO Collaborating Centre for Air Quality Management and Air Pollution Control

ABOUT

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NOTE

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PROTECTING HEALTH FROM CLIMATE CHANGE – A SEVEN-COUNTRY INITIATIVE IN THE WHO EUROPEAN REGION

James Creswick, Kris Stasik, Bettina Menne, Tanja Wolf

Background

Every century has its own public health challenges; climate change is our century's biggest challenge. People all over the world already feel the impact of climate change. The consequences of climate change affect everybody, but some people are more vulnerable than others. The risks to people's health are determined by various factors like geography, health-system preparedness, health status, age, social and environmental conditions, as well as support systems. In all countries, the people at greatest risk include the urban poor, the elderly and children, traditional societies, subsistence farmers, and coastal populations (World Health Organization 2009).

WHO/Europe's activities on climate change and health are framed by global and regional mandates. The WHO workplan on climate change and health for 2008–2013 frames WHO's action for the coming years. At the regional level, the European Regional Framework for Action was welcomed in the 2010 Parma Declaration on Environment and Health. WHO also collaborates with the United Nations Framework Convention on Climate Change, providing advice on health aspects of the Convention.

Aims of the project

From December 2008 to June 2012 the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) founded through the International Climate Initiative (ICI) the project "Protecting Health from Climate Change – A Seven Country Initiative" of the WHO Regional Office for Europe with seven Million Euro. Albania, Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, the Former Yugoslav Republic of Macedonia and Uzbekistan participated as pilot countries. They were selected based on various criteria such as exposure to extreme events, air pollution and water scarcity, severity of projected health effects as well as eligibility for Official Development Assistance. Each of the countries is politically committed to engage further into climate change mitigation and adaptation. They all ratified the United Nations Framework Convention in Climate Change and five of them also ratified the Kyoto protocol. However, there is little awareness of climate change effects on health, highlighting the need for an improved cooperation between the environment and health sectors on this topic.

The main goals of the initiative for all countries were to assess the health risks and to develop national or sub-national health adaptation strategies. The preparation of a vulnerability assessment report, for example, is marked as one of the joint achievements of the project in all countries. In the course of the initiative, the countries together held 21 capacity building workshops. To complete the vulnerability assessments and national strategies, they produced templates and additional frameworks and designed various training and workshop materials in collaboration with the WHO. The participants attended a series of high-level meetings and provided briefing material to influence future funding and policy development on climate change and health. Further common achievements of the seven countries were the setting up of steering committees and working groups, development of adaptation strategies and broad journalist training workshops.

In each of the participating countries, several county specific activities have been pursued. The potential health impacts of climate change are associated with the country specific climate; a distinction is made between four climate zones. Arid and semi-arid water-stressed areas can be found in Kazakhstan and Uzbekistan, where risk for infectious diseases and malnutrition is high. High mountainous areas, such as parts of Kyrgyzstan and Tajikistan, bear risks from glacier lake outburst floods, high UV radiation exposure and poor water quality in the health system. On the other hand, Albania and the Former Yugoslav Republic of Macedonia, both with Mediterranean



climate share risks from heat-waves and flooding as well as from infectious disease outbreaks. In contrast to this, the northern part of the Russian Federation is threatened by potential disruption of health care activities from permafrost melting, a typical impact of climate change in subarctic and arctic regions.

National leaflets have been produced for all seven countries to increase awareness of climate change and health (see: http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/publications/2009/protecting-health-from-climate-change-leaflets) and a video was produced (see: http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/publications/2009/protecting-health-from-climate-change-leaflets) environment-and-health/Climate-change/publications/2009/protecting-health-from-climate-change-leaflets/protecting-health-from-climate-change-leaflets/protecting-health-from-climate-change-leaflets/protecting-health-from-climate-change-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region).

Project activities were carried out by national Governments through bilateral agreements with the WHO Regional Office for Europe. Additional communication and advocacy actions have taken place to raise public awareness of climate change-related health risks and what can be done by decision-makers and individuals. Such actions have been realized by national young journalists of the World Health Youth (WHY) Communication Network, an initiative coordinated by the WHO Regional Office to promote dialogue on environment and health issues in the European Region.

The map highlights the countries that participated to the initiative.



Results of the project

Accordingly, as country-specific objectives, extreme weather events preparedness, infectious disease surveillance and detection and institutional capacity to deal with climate change in relation to water, food safety and malnutrition were improved. In addition to innovation in energy efficiency, the use of renewable energy for health services was to be fostered. Finally, the last goal was to strengthen the exchange of knowledge and experiences on effective adaptation. Some examples are explained below and summarized in the table.



- **Albania** installed two automatic air pollution monitoring stations and launched a report on vector control and reports on mosquito, ticks and sandflies. Albanian Ministry of Health established a national taskforce/committee with representatives from all relevant Ministries and sectors (Ministry of Health, Republic of Albania 2011). For further information see:
 - WHO county specific link http://www.euro.who.int/en/where-we-work/member-states/ albania
 - World Health Youth communication activities in Albania: http://www.youtube.com/ watch?v=38dnYnDYJ54.
- The achievement of the **Former Yugoslav Republic of Macedonia** shows how effective adaptation to climate change can work in the areas of early warning and greening health services. Within the context of the initiative, more than 600 professionals of various climate change and health-related sectors, journalists and other profiles were trained to strengthen national capacity for assessing the health impacts of climate change. The country developed and adopted an action plan to protect Macedonian population from heat-waves. A heat-wave early-warning system for timely announcement of heat-waves has been installed. Two pilot hospitals positioned solar-thermal systems, including collectors and thermostatic valves. The hospitals are located in the areas vulnerable to summer heat and interruption in the continuous energy supply with the highest solar index to pilot energy efficiency and self-sustainability. It enables conditions for decrease in CO₂ emissions (World Health Organization 2011) and to ensure sustainable and reliable supply of warm water. For further information see:
 - National project website: http://www.toplotnibranovi.mk
 - WHO county specific link http://www.euro.who.int/en/what-we-do/health-topics/envi ronment-and-health/Climate-change/country-work/protecting-health-from-climatechange-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/ the-project-in-each-of-the-seven-countries/the-former-yugoslav-republic-of-macedonia.
- **Kazakhstan** assessed hospital safety in four selected hospitals prone to flooding and founded a young journalist's network with participation of all seven countries. For further information see:
 - WHO county specific link: http://www.euro.who.int/en/what-we-do/ health-topics/environment-and-health/Climate-change/country-work/protecting-health-from-climatechange-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/ the-project-in-each-of-the-seven-countries/kazakhstan.
- In Uzbekistan, an area where respiratory diseases rank third in the national mortality pattern — first among people under 14 years old — and where the number of warm days combined with associated dust-storm increases, the seven-country initiative provided proof of significant success. Both a dust-storm early-warning system in collaboration with Athens University was developed and a first step to achieve an effective dust-storm and air-pollution monitoring system, with two stations in Tashkent and Nukus, were installed and work properly (World Health Organization 2011.2). For further information see:
 - WHO county specific link: http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/country-work/protecting-health-from-climatechange-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/ the-project-in-each-of-the-seven-countries/uzbekistan.



- WHO Collaborating Centre for Air Quality Management and Air Pollution Control
- To raise awareness, Kyrgyzstan produced 40 different types of informational and educational publications. The educational film "Let's Save Health from Climate Change" was produced and circulated. The national as well as various regional television companies broadcasted the film countrywide at prime time. Pilot schools use a methodical guidance for teachers entitled "The Culture of Health". For further information see:
 - WHO county specific link http://www.euro.who.int/en/what-we-do/health-topics/ environment-and-health/Climate-change/publications/2009/protecting-health-fromclimate-change-leaflets/protecting-health-from-climate-change-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/the-project-in-each-of-the-seven-countries/kyrgyzstan
 - Deutsche Welle video: http://mediacenter.dw.de/english/video/item/518803/Kyr-gyzstan_Free_from_the_State_Power_Grid/.
- **Tajikistan** established a national water-safety plan facilitator team and supported two pilot communities with a total population of 5616 people to improve their water system. For further information see:
 - WHO county specific link: http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/country-work/protecting-health-from-climatechange-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/ the-project-in-each-of-the-seven-countries/tajikistan.

Country	Country specific health challenge	Results to be highlighted
Albania	Heat waves, Air pollution, Flooding and Infectious diseases	Two automatic air pollution monitoring stations were installed, reports on mosquito, ticks and sand flies control, establishment of national working group
The former Yugoslav Republic of Macedonia	Heat waves, flooding, infectious diseases	Training of more than 600 health professionals, en- vironment professionals, journalists, other profiles on health and climate change, Heat health early warning system for timely announcement of heat – waves, Solar – thermal systems and thermostatic valves installed in two pilot hospitals
Kazakhstan	Water supply problems, malnutrition	Assessment in four selected hospitals prone to floods concerning hospital safety, Equipment and consumables were provided to the regional labo- ratories to ensure diagnosis and early detection of viral diseases
Uzbekistan	Water supply problems leading to infec- tious diseases and malnutrition, respira- tory diseases related to dust-storms in Aral-Sea-Region	Air pollution and dust storm forecasting system and health oriented early warning system developed
Kyrgyzstan	Glacier lake outburst floods, UV-radia- tion, water quality	Renewable energy sources were piloted on 5 pilot hospitals, 40 types of informational and educational publications, Educational video to raise awareness
Tajikistan	Glacier lake outburst floods, UV-radia- tion, water quality	Support of regional water safety plans, improve- ment of water system in two communities
Russian Federation	Permafrost melting in (sub)arctic region	Supply of medical kits for screening and monitor- ing cardiovascular and respiratory diseases to hos- pitals, Laboratory equipment for detection of TBE was procured and installed in the regional labora- tory

The table gives an overview of country initiatives.

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- People in the Russian Federation are confronted with different but also drastic effects of climate change, for example in the arctic region of Arkhangelsk, including the region Nenets Autonomous Okrug. There, the coverage of the sea-ice has reduced by 9% every decade. Thawing of permafrost leads to reduced access to health care due to fewer travelling days on the tundra. The mortality from extreme weather events also increased. The material and resource base of health care facilities has been improved in the concerned region (Sidorov et al., 2011), ameliorating the situation of vulnerable groups by improving access to medical care and strengthening primary health care sector. In this context, 24 hospitals of the region were provided with medical kits for screening and monitoring cardiovascular and respiratory diseases. Rural medical establishments received new equipment specialized for the treatment of vulnerable groups and laboratory equipment for detection of tick-borne encephalitis. For further information see:
 - WHO county specific link: http://www.euro.who.int/en/what-we-do/health-topics/ environment-and-health/Climate-change/publications/2009/protecting-health-fromclimate-change-leaflets/protecting-health-from-climate-change-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region/the-project-in-each-of-the-seven-countries/russian-federation.

Conclusion

This project has shown that health adaptation to climate change is possible. However, more needs to be done in each of the countries, as well as across countries. The adaptation strategies and pilot results have set the start. In particular in Central Asian countries further investment is required in disaster prevention, the early detection of disease and making health services more resilient. In the Eastern Mediterranean, particularly emerging infectious diseases and extreme events health effects need to be further prevented. Lastly this health adaptation project showed the urgency of further need for action.

Further information, including an informative summary video, can be obtained from: http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Climate-change/country-work/protecting-health-from-climate-change-a-seven-country-initiative-in-the-eastern-part-of-the-who-european-region.

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Many Europeans still exposed to harmful air pollutants

Almost a third of Europe's city dwellers are exposed to excessive concentrations of airborne particulate matter (PM). Particulate matter is one of the most important pollutants in terms of harm to human health as it penetrates sensitive parts of the respiratory system. The EU has made progress over the past decades to reduce the air pollutants which cause acidification, but a new report published recently by the European Environment Agency (EEA) shows that many parts of Europe have persistent problems with outdoor concentrations of PM and ground level ozone.

The EEA's 'Air quality in Europe — 2012 report' examines citizens' exposure to air pollutants and provides a snapshot of air quality in Europe. The report is intended to support the development of more effective clean air policies. The key findings are:

- Particulate matter (PM) is the most serious air pollution health risk in the EU, leading to premature mortality. The report estimates that in 2010, 21 % of the urban population was exposed to PM10 concentration levels higher than the most stringent, daily, EU limit value designed to safeguard health. Up to 30 % of the urban population was exposed to finer PM2.5 concentration levels above the (less stringent) yearly EU limit values. According to the WHO air quality guidelines, which are even tighter than those imposed by EU law, respectively up to 81 % and 95 % of urban dwellers were exposed to PM concentrations that exceed the recommended values set for the protection of human health underlining the urgency of the coming review of air legislation.
- Ozone (O₃) can cause respiratory health problems and lead to premature mortality. Exposure in cities is very high 97 % of EU urban inhabitants were exposed to O₃ concentrations above the WHO reference level in 2010. 17 % were exposed to concentrations above the EU target value for O₃. In 2009, 22 % of arable land in Europe was exposed to damaging concentrations of O₃, leading to agricultural losses.
- Nitrogen dioxide (NO₂) is a major cause of eutrophication (excessive plant and algal growth in water) and acidification, and also contributes to the formation of PM and O₃. In 2010, 7 % of Europeans living in cities were exposed to NO₂ levels above the EU limit values. National emissions of nitrogen oxides in many European countries still exceed emission ceilings set by EU legislation and under United Nations agreements.
- **Benzo(a)pyrene (BaP)** is a carcinogen. A considerable proportion of the urban population in the EU (20-29 % between 2008 and 2010) were exposed to concentrations exceeding the EU target value, which must be met by 2013. The increase in BaP emissions in Europe in recent years is therefore a matter of concern.
- **Sulphur dioxide (SO₂)** is a big success story: emissions have been reduced significantly in recent years thanks to EU legislation requiring the use of emissions scrubbing technology and lower sulphur content in fuels. 2010 was the first year that the EU urban population was not exposed to SO₂ concentrations above the EU limit value.
- **Carbon monoxide**, benzene and heavy metals (arsenic, cadmium, nickel, lead) concentrations in outdoor air are generally low, localised and sporadic in the EU, with few exceedances of the limit and target values set by EU legislation.





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In recent years, the EEA has published annual information on air pollutant emissions and exceedances of emission ceilings under the National Emission Ceilings (NEC) Directive. Later this year, the EEA will publish a retrospective analysis of whether the health and environmental objectives of the NEC Directive for 2010 have been met.

The European Commission is preparing a review of EU air legislation in consultation with stakeholders and will put a particular emphasis on air pollution policies in 2013.

Source of information: EC Press Release, IP/12/1002 of 24 September 2012

For more information:

http://ec.europa.eu/environment/air/quality/index.htm http://www.eea.europa.eu/themes/air

Take a Breath !

The focus of the EC project 'Take a Breath/TAB' is air pollution, a complex phenomena that impacts on human health at the local level but may be caused far away from where the main effects are evident. Moreover the effects of climate change, particularly the recurring severe weather events, can aggravate air pollution and its negative influence on human health and on the environment. TAB project aims at developing innovative approaches to this problem with the objective of promoting a sustainable economic development of the partner cities/regions and the environmental protection.

Polluted air contains particles in suspension like PM, and potentially dangerous gases like ozone and nitrogen oxides, the three main sources being vehicle exhaust, industrial activities and winter heating, all of them mainly burning fossil fuel. Particulate matters can contribute to the development of various disorders which become manifest through respiratory complaints and a reduced capacity for healthy life. In turn, this undermines the competitiveness of a city/region by deterring the settlement of people and enterprises in the affected areas. Thus, air pollution impacts home environments, workplaces and health care systems at different levels, spatially and temporally.

Currently in the Central and Eastern European region, processes of transition and convergence emphasise economic growth to generate employment and wealth. Nevertheless, the negative impacts of old industries with their more pollution-intensive technologies still persist. WHO argues that a wide part of the impact of air pollution is preventable, but will require an integrated package of measures including improved planning and management, new legislation and communication with the general public.

Thus, there is a pressing need for innovative approaches to the twin challenges of promoting sustainable economic development and environmental protection.

As the core problem the project intends to address is the high degree of air pollution linked to vehicle exhaust, industrial activities and winter heating, the specific objectives of TAB can be summarised as follow:

 reduce the adverse effects of air pollution originating from these main sources on the health and quality of life of citizens in the partner cities and regions, and reduce the level of pollution;





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 limit the ways by which the effects of climate change may exacerbate air pollution through the incidence of extreme weather events.

TAB Approach

TAB partner cities/regions share a strong industrial character with large human populations. They suffer from three main types of air pollution sources (industry, traffic and household heating) and ambient levels of particulates that sometime exceed thresholds defined by european and national regulations (chiefly PM, NOx, CO_2 , SO_2 , O_3). A key impact is the increasing burden of air pollution on the environment and human populations. The TAB project intend to respond directly to the concerns of reducing air pollution and its harmful effects at the local level by analysing and sharing experiences at the transnational level.

TAB considers that the effective mitigation at the local/regional levels requires a package of integrated actions to be mediated on a transnational scale to facilitate the sharing of experience on a scale proportionate to the distribution of air pollution (regional level) and to coordinate the development and implementation of the planned actions (local level).

The specific objectives of the project will be achieved through:

- Collection of comparative environmental data in Virtual Observatory to understand the nature and extent of air pollution and its interactions with climate;
- Wide consultation with stakeholders (local government, industry, health sector, interest groups and communities) to formulate responses into Adaptation Action Plans containing a set of integrated tools and actions, aiming at reducing and ultimately mitigating air pollution effects at local/regional levels.

Tools and measures have to be implemented and tested under the coordination of different sectors including local government, industry, health and local communities. TAB will connect partners through the network established by the project to facilitate effective communication and cooperation around the shared concern of improving air quality at the transnational level. The set of actions designed to work towards the specific objectives can be summarised as to:

- develop a monitoring system to inform decision-making on air-pollution and its interaction with climate change;
- **involve different interest groups** in identifying ways to reduce the impacts of air-pollution originating from different sources;
- prepare and apply tools and actions for health risk assessment and management;
- **improve urban planning** to reduce effects of air pollution on citizens;
- **influence policies and legislation at the local and regional levels** to promote sustainability through the implementation of the adaptation action plans;
- identify European funding opportunities for investments to reduce the effects of air pollution;
- **raise awareness** of civil society, industry and government of the problems of air pollution.

Further information are available at: http://www.tabproject.eu





MEETINGS AND CONFERENCES — MEETINGS AND CONFERENCES

AIR QUALITY – SCIENCE AND APPLICATION 2012 8th International Conference 19 – 23 March 2012 in Athens, Greece

The eighth Air Quality conference built upon the series which began at the University of Hertfordshire, UK, in July 1996. The conference was hosted jointly by University of Hertfordshire and the University of Western Macedonia at the Divani Caravel Hotel in Athens, Greece. Air Quality 2012 brought together scientists, users and policy makers from across the globe to discuss the latest scientific advances in our understanding of air pollution and its impacts on our health and environment. The conference welcomed 250 delegates from 47 countries to attend the conference (Figure). Over five days there were 150 oral presentations and 80 poster presentations. Plenary presentations covered a range of research topics including air quality assessment and management, complex associations between black carbon and the potential influence of emission changes, interactions between climate change and future air quality and policy applications of air quality research.

The main themes covered in the conference were: Air Quality Impact on Regional to Global Scales; Air Quality Management and Policy; Air Quality, Health and Exposure; Emission Models and Inventories; Local and Urban Scale Modelling and Measurement; Measurement of Air Pollutants; Meteorological Processes and Climate Interactions; Chemical Weather and Forecasting; Model Development and Evaluation; Satellite and Remote Sensing; and Source Apportionment.

Four special sessions were also held and served to bring together key researchers and stakeholders in the areas of:

- (i) Air Pollution in Cities (organised with GURME/WMO),
- (ii) Air Quality and Climate/Meteorology Interactions and Feedbacks (organised with MEGAPOLI and CITYZEN),
- (iii) Chemical Weather Forecasting (organised with COST 602 and ES1004), and
- (iv) Transport-related Air Pollution Science for Policy (organised with TRANSPHORM).

The need for improved understanding of the science of air quality remains a priority for the wider scientific and user communities. Despite improvements in technology, however, users still require new, robust management and assessment tools to formulate effective control policies and strategies for reducing the health impact of air pollution.

There were a number of presentations showing results from large scale cross-disciplinary projects such as MEGAPOLI (http://megapoli.info/), FAIRMODE (http://fairmode.ew.eea.europa. eu/), and TRANSPHORM (http://www.transphorm.eu/). At the next conference in 2014, we would expect and hope that this trend of interdisciplinary research will continue.





MEETINGS AND CONFERENCES — MEETINGS AND CONFERENCES

Networking and collaboration was a prominent theme at the conference. Figure 1 shows the home countries of many of the participants. This included:

- Cooperation between Scientists from different disciplines.
- Consultation with communities and policy makers throughout some research projects and the sharing of results.
- Interactions between users and scientists working on local, urban, regional and global scale problems.
- Bringing together of air quality and climate communities.



Figure: The geographical spread of delegates at Air Quality 2012

There were a number of wider future research challenges identified from the presentations and panel discussions. These included:

- Identification of which air pollution metrics are most relevant to exposure and health, especially for particulate matter;
- dentification of a mechanistic basis for the observed health effects;
- An evaluation of policies designed for attaining air quality standards and reducing health • risks;
- mproving the science of air pollution modelling to meet research and policy needs; and
- Reducing uncertainties in predictions of future air quality;

From the large number of papers submitted and presented at the conference, the dynamism of the community was clearly evident. Research in the wider community continues to extend the boundaries of air quality science and is providing solutions to reduce health and environmental impact of air pollution. As this conference came to an end, planning for the next was already underway and first announcements will be made in due course. The Conference Committee would like to extend its appreciation to all the supporting organisations and the participants who attending the meeting.

For more information on the conference, please see http://www.airqualityconference.org/.

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MEETINGS AND CONFERENCES — MEETINGS AND CONFERENCES

AQM2012 and IUAPPA Regional Conference 10 - 13 September 2012 in Istanbul, Turkey

The 4th International Symposium on Air Quality Management at Urban, Regional and Global Scales and IUAPPA Regional Conference was jointly organized by the Istanbul Technical University and Turkish National Committee for Air Pollution and Control in collaboration with IUAPPA and EFCA. This fourth meeting builds upon the series that began in 1997.

AQM2012 was larger conference ever bringing scientists, users and policy makers from the four continents: Europe, North and South America, Asia and Africa by nearly 150 participants to discuss the newest scientific advances and recent assessments in atmospheric policy under the topics of air pollution modeling, air quality management, health effects, aerosols, impacts on forest and vegetation, risk management, indoor air quality, climate change, and energy and emission studies from universities, research organizations, government and industry together. There were 92 oral and 24 poster papers during the conference. In addition, there were two Special Sessions "New Issues in Atmospheric Sciences and Policy" by IUAPPA and "Mediterranean Transboundary Pollution" by EFCA in the conference schedule.

Several papers were also presented specifically under the topic of health effects. These papers dealt with alternative air quality exposure metrics, environment and health information systems. An overview and evaluation of alternative air quality exposure metrics used in air pollution epidemiological studies was presented in the plenary session by H. Özkaynak. He reviewed the alternative air quality and human exposure metrics applied in recent air pollution health effects studies in the US. The various exposure metrics were compared in their ability to characterize the spatial and temporal variations of multiple ambient air pollutants and to examine associations with acute morbidity and mortality. There is a need for case-specific enhancements to measured and modeled air quality and exposure indicators for future air pollution health impact studies.

Combining environment and health information systems for an integrated assessment on human health is presented by P. Kassomenos and A. Skouloudis. This paper presents a new approach for integrating monitoring data for the detection and verification of health threats attributed to environmental causes. This work refers to atmospheric pollution and examines different level of frequency and severity of health impact assessments.

J. E. Pachon et al's paper dealt with human health benefits of emission controls using single and multipollutant indicators of mobile sources. This work discuss a novel method to combine pollutants in a multipollutant indicator. The use of integrated mobile source indicators in epidemiologic modeling constitutes an alternative approach to assess the health impact of pollutant mixtures. Spatial distribution of VOC concentrations and cancer risk around an industrial region at western Turkey was presented by M. Y. Civan et al. The study measured at 46 sampling points at Aliağa region, which is a heavily industrialized area (including a petrochemical complex, petroleum refinery, ship-dismantling industry, several iron and steel plants and a gas-fired powerplant), and discussed the cancer risk potential.

Selected papers from the conference will be published in the special issues of several scientific journals.

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PUBLICATIONS — PUBLICATIONS — PUBLICATIONS — PUBLICATIONS

Noncommunicable diseases prevention and control in the South-Eastern Europe Health Network. An analysis of intersectoral collaboration

by WHO, 2012, v + 33 pages, ISBN 978 92 890 0266 0, free of charge. Available in English (PDF), 3.5 MB

The greatest burden of disease, at both the global and the European levels, is attributable to noncommunicable diseases. Health-promotion and disease-prevention activities aimed at reducing this burden need to involve non-health sectors and actors. This publication provides an overview of the existing tools for implementing such intersectoral action and highlights the developments in the fields of tobacco and nutrition in south-eastern Europe.

Using the concept of "best buys" – cost-effective action that accelerates results in terms of saving lives, preventing disease and avoiding heavy

costs – it contains recommendations on key action to strengthen intersectoral collaboration in the prevention and control of noncommunicable diseases in the future, and guidance specifically for the South-eastern Europe Health Network and Slovenia on designing and implementing joint action to this end. The proposals for action are organized in such a way as to create windows of opportunity for promoting health in all policies.

Action Plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012–2016

by WHO, 2012, iii + 24 pages, ISBN 978 92 890 0268 4, free of charge. Available in Deutsch (PDF), 5.6 MB; Englisch (PDF), 1.0 MB; Français (PDF), 5.6 MB; Русский (PDF), 592.5 KB

No less than 86% of deaths and 77% of the disease burden in the WHO European Region are caused by noncommunicable diseases. Investing in prevention and better control of this broad group of disorders will reduce premature death and preventable morbidity and disability, improve the quality of life and well-being of people and societies, and help reduce the growing health inequalities they cause.

With attention to noncommunicable diseases reaching unprecedented levels worldwide, this action plan was adopted in September 2011. It identifies priority action areas and interventions for countries to focus on over the next five years (2012–2016), as they implement the







European Strategy for the Prevention and Control of Noncommunicable Diseases.



PUBLICATIONS — PUBLICATIONS — PUBLICATIONS — PUBLICATIONS

Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease

by WHO, 2006, ISBN 92 4 159382 2. Available in Arabic (PDF), 165 KB; Chinese (PDF), 455 KB; French (PDF) 2.45 MB; English (PDF), 859 KB; Russian (PDF), 522 KB; Spanish (PDF), 2.62 MB

How much disease could be prevented through better management of our environment? The environment influences our health in many ways — through exposures to physical, chemical and biological risk factors, and through related changes in our behaviour in response to those factors. To answer this question, the available scientific evidence was summarized and more than 100 experts were consulted for their estimates of how much environmental risk factors contribute to the disease burden of 85 diseases.

Other Publications:

Particulate matter from natural sources and related reporting under the EU Air Quality Directive in 2008 and 2009

by EEA (European Environment Agency), 2012. Available in English (PDF) 1.9 MB

Much of the air pollution that damages human health and the environment today is the result of human activities. But natural sources such as Sahara dust, sea spray and vegetation fires also emit air pollutants, contributing to the exposure of European citizens and ecosystems to bad air quality and potentially undermining EU Member State efforts to meet the air quality standards set out in EU legislation.



Air quality in Europe — 2012 report

by EEA (European Environment Agency), 2012. Available in English (PDF) 13.3 MB

This report presents an overview and analysis of the status and trends of air quality in Europe based on concentration measurements in ambient air and data on anthropogenic emissions and trends from 2001 — when mandatory monitoring of ambient air concentrations of selected pollutants first produced reliable air quality information — to 2010.







COMING EVENTS - COMING EVENTS - COMING EVENTS - COMING EVENTS



AQE 2013 – The Air Quality Show - Conference, Exhibition and Workshops

13-14 March, Telford, United Kingdom, http://www.aqeshow.com/index/

European Climate Change Adaption Conference - Integration Climate into Action 18-20 March, Hamburg, Germany, http://www.eccaconf.eu

Environmental Health Risk 2013

7th International Conference on the Impact of Environmental Factors on Health 23-25 April, Budapest, Hungary, http://www.wessex.ac.uk/ehr2013rem1.html

International Conference Climate Change and Regional Response (CCRR-2013) 27-29 May, Dresden, Germany, http://www.regklam.de

Urban Transport 2013 19th International Conference on Urban Transport and the Environment 29-31 May, Kos, Greece, http://www.wessex.ac.uk/transport2013cfp.html

Air Pollution 2013

21st International Conference on Modelling , Monitoring and Management of Air Pollution

3-5 June, Siena, Italy, http://www.wessex.ac.uk/air2013cfp.html

Environment and Health - Bridging South, North, East and West Conference of ISEE, ISES and ISIAQ

19-23 August, Basel, Switzerland, http://www.ehbasel13.org

21th International Conference of Environmental Indicators ICEI 2013

23-26 September, Trier, Germany, http://www.biogeographie.uni-trier.de

16th IUAPPA World Clean Air Congress

29 September - 4 October, Cape Town, South Africa, http://www.iuappa.org

IAQ 2013 - Environmental Health in Low Energy Buildings

15-18 October, Vancouver, British Columbia, Canada, http://www.ashrae.org/membership--conferences/conferences/ashrae-conferences/iaq-2013

2014

26th Conference of the International Society for Environmental Epidemiology 24-28 August, Seattle / Washington, USA, http://www.iseepi.org