NEWSLETTER

WHO COLLABORATING CENTRE FOR AIR QUALITY MANAGEMENT
AND AIR POLLUTION CONTROL at the GERMAN ENVIRONMENT AGENCY

No. 59 - July 2017

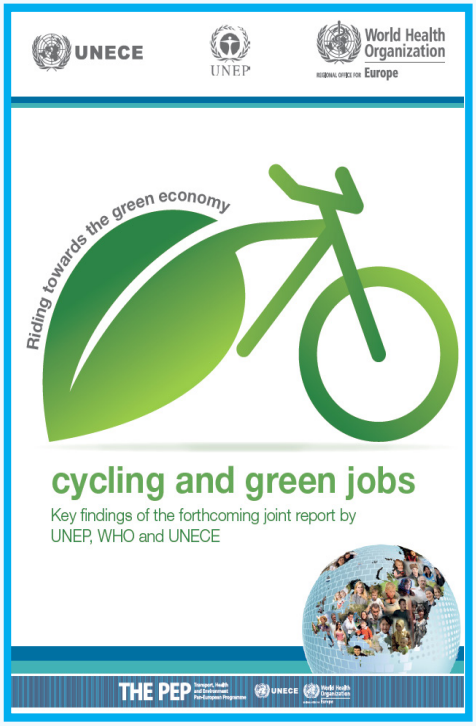
EDITORIAL

Addressing the air pollution challenges in Europe

Air pollution is an important environmental and social issue, resulting to complex problems representing multiple challenges in terms of mitigating and managing harmful pollutants. Air pollutants are emitted from anthropogenic and natural sources, both either emitted directly (primary pollutants) or formed in the atmosphere (as secondary pollutants). Produced on a local scale, they can be transported or formed over long distances and may affect ecosystems, climate and health at small or large areas.

In Europe, air pollution leads to nearly half a million premature deaths each year. About 6.5 million people fall sick by air pollution caused diseases such as strokes, asthma and bronchitis. In consequence, the induced costs are about € 4 billion in healthcare and € 16 billion in lost workdays.

The 2016 report of the European Environment Agency indicated that air quality policies have delivered, and continue to deliver, many improvements in Europe. Between 2000 and 2014 air quality protection measures became more efficient and, for a number of pollutants, exceedances of European standards were rare. However, substantial challenges remain and considerable impacts on human health and on the environment persist. A large proportion of European populations and ecosystems are still exposed to air pollution that exceeds standards and, especially, the Air Quality Guideline values of WHO.



Source: http://www.euro.who.int/__data/assets/pdf_file/0017/311471/Cycling-and-green-jobs.pdf?ua=1

It is expected that, by 2030, more than 80 % of the European population expected to live in urban areas. Cities have a crucial role to steer the transition towards a low-carbon society, to promote physical activity and protect health and wellbeing, as well as to prevent and mitigate socioeconomic inequalities among urban dwellers. Therefore, an important approach is to strengthen and to ensure policy options for decarbonizing business and transport, e.g. a combination of cycling and walking, electric mobility, mobility management, green logistics and eco-driving, finally to reduce both

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ambient air and noise pollution. This example shows, that tackling air pollution is a complex and systemic challenge which requires concerted action across societal and economic sectors, including the energy sector and industrial activities, transport, agricultural production systems, as well as households' heating and consumption.

The European Commission announced two days conference 'Clean Air Forum' for Europe, to be held in Paris, France, from 16 to 17 November 2017 (https://www.euconf.eu/clean-air/index.html). The Clean Air Forum will provide a basis for structured dialogues, exchange of knowledge and good practices, and to enhance capacity of relevant stakeholders to improve air quality. It aims to reflect on the development of policies, projects and programmes in the context of air pollution and air quality, and facilitate the implementation of European, national and local air policies. It will be focussed on three challenging areas: (i) air quality in cities, (ii) agriculture and air quality, and (iii) clean air business opportunities.

This conference will bring together experts, stakeholders and decision-makers in order to identify and to discuss practical alternatives of fossil fuels use, which should be replaced by cleaner fuels and to promote renewable energy attempts. As well, they will focus on the challenging problems of the agricultural sector contributing to air pollution, e.g. to abate emissions from fertilizers and to improve livestock and manure management practices.

Because Clean Air is essential for healthy living – in Europe and globally.

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

ABOUT

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Air Quality Management and Air Pollution Control.
Due to the abuse of e-mail addresses the symbol @ is replaced by [at]!

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ENVIRONMENT AND HEALTH PROCESS HAS STARTED IN CENTRAL ASIA

Irina Bekmirzaeva

Public health is an important factor of socio-economic development of each country and its society. It is determined not only by the absence of disease, but also by the ability to adapt quickly to constantly changing conditions of life, environmental changes and to emerging climate and ecological conditions. As of today, Central Asian region has faced many environmental challenges that have a serious impact on the economy, public health and security issues of the population in these countries. According to the World Health Organization (WHO), a quarter of all diseases in the Central Asian region are due to environmental hazards. A significant barrier that negatively affects sustainable development of all Central Asian countries have become environmental issues related to the access and quality of drinking water, air pollution and extreme weather conditions due to climate change.

The goal of the new process

The main goal of the new "Environment and Health" programme is to identify the correlation between human health and environmental factors in the Central Asian region as well as to assist in reducing the burden of environmental hazards on its public health.

The Central Asian Regional Environmental Centre's (CAREC) strategic priority within its programme is to avoid and to decrease the burden of diseases, injuries and deaths caused by environmental factors by identifying the relevant correlation through primary prevention and influencing to adopt target-aimed strategic and appropriate measures in all sectors. In particular, the programme will operate using the following approaches:

- ***Research and analytical activity:*** assistance in establishing empirical links between human-induced environmental impact and dynamics of specific diseases among the population;
- ***Information activity:*** raising awareness among the population and among all interested parties about the scale and depth of ecological health issues caused by the negative impact on the environment, as well as information on preventative measures both at the national and regional levels (prevention);
- ***Establishment of cross-sectorial dialogue:*** promoting the establishment of close cooperation and dialogue between all stakeholders (nature protection bodies, healthcare, industrial sector and other stakeholders) to address problems which are at the junction of their interests.

Considering the experience, knowledge and number of successful projects done by CAREC, the main areas of the new "Environment and Health" programme will include projects aimed to prevent and decrease the quantity of the diseases related to:

- water, sanitation and hygiene
- climate change
- air pollution
- waste management.

No.	ENVIRONMENT AND HEALTH PROGRAMME	KZ	KG	TAJ	TM	UZ
	AIR POLLUTION					
1.	Air pollution from combustion products	+				
2.	Research of influence of small dispersion dust on human health and climate change adaptation	+	+		+	+
3.	Research on solid particles in atmospheric air		+			
	WATER, SANITATION AND HYGIENE					
1.	Research and assistance in methodic on damage calculation from water transboundary pollution	+				
2.	Scientific research on human impact facts on treatment facilities (risk assessment), including Aral Sea region, urbanization	+				
3.	Water supplying and water drainage in rural communities		+			
4.	Awareness raising among population on water availability, wastewater disposal and wastes utilization					+
	CLIMATE CHANGE					
1.	Climate change adaptation measures		+		+	+
2.	Green public health		+		+	+
	WASTE MANAGEMENT					
1.	Pesticide use impact decreasing	+				
2.	Historical pollutions (poison and cattle dumping)	+				
3.	Soil and water pollution by wastes, including pesticide	+				
4.	Persistent organic pollutants	+			+	
5.	Medical wastes	+			+	+
6.	Decreasing of impact from burning of fallen leaves and wastes		+		+	
7.	Waste management	+			+	+
8.	Introduction of economic stimulation of rational waste management , including of preferential taxation system				+	

Consultations devoted to the European process on „Environment and Health"

End of March 2017, CAREC organized a first regional advisory meeting in cooperation with the WHO Regional Office for Europe held for their five Member States of the Central Asian region (Kazakhstan, Kyrgyzstan, Tadjikistan, Turkmenistan and Uzbekistan) in Almaty, Kazakhstan. The meeting was dedicated to topics of European process on "Environment and Health". It was attended by about 50 participants of relevant environment and health institutions of the region, directors of the CAREC offices, representatives of international organizations and partners (e.g. WHO, UNDP and UNECE).

Main aim of the meeting was to discuss the condition and perspectives of development of the interaction between Central Asia and WHO in a sphere of reduction of environmental factors that have an impact on health of the population. Another discussion touched the progress of joint projects and priority directions within the framework of tasks concerning environmental and health sectors in Central Asia.

In order to strengthen the cooperation of Central Asian countries at the junction of Environment and Health, in 2015 CAREC launched the new "Environment and Health" programme. Its goal is to identify the relationship between human health and the environment and to help reduce the number of environmental factors which have a negative impact on the health of the population in the Central Asian region. The program will implement projects aimed at monitoring, reducing and preventing diseases related to water quality, climate change and air pollution. In this

context the Sixth Ministerial Conference on Environment and Health, held mid of June 2017 Ostrava, Czech Republic, could serve as an important milestone to this new process in the Central Asian region.

This programme of work is led by PHE's Air Pollution and Public Health project group. The group, project managed by Karen Exley and Lydia Izon-Cooper includes Sotiris Vardoulakis, Naima Bradley, Alec Dobney, Clare Heaviside, Alison Gowers and Sani Dimitroulopoulou.
All colleagues in PHE working on air pollution.

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UPDATE ON AIR QUALITY FROM THE EUROPEAN COMMISSION

Frauke Hoss and Andre Zuber

In the past months, the unit "Clean Air" at the Directorate-General for the Environment of the European Commission has pursued several activities:

Following the entry-into-force of the Medium Combustion Plants (MCP) Directive (2015/2193/EU) in December 2015, the Commission's 2013 **Clean Air Policy Package** has been concluded with the entry-into-force of the 'new' National Emission Ceilings (NEC) Directive (EU Directive 2016/2284/EU) in December 2016. This directive replaces the 'old' NEC Directive (Directive 2001/81/EC) by setting emission reduction commitments for the main pollutants (SO_2, NOx, VOCs, NH_3, and $PM_{2.5}$) for the years 2020 to 2029, and more stringent commitments for the years 2030 and after.

The overall objective of this new legislation is to reduce by 2030 the number of $PM_{2.5}$-related premature deaths in the EU by close to 50 % compared to the over 400.000 premature deaths in 2005. The reduction targets for the years 2020 to 2029 are identical to those laid down in the 2012 amendment to the Convention on Long-Range Transboundary Air Pollution (CLRTAP) Gothenburg Protocol (which is likely to be ratified by the EU in the second half of 2017). Furthermore, the new directive includes new components to facilitate and enhance air quality and air emission governance in the Member States, in particular through national programmes. Those programmes set out the planned measures to achieve the reduction commitments. The programmes need to be coherent with other main policy areas (e.g. transport, energy & climate, agriculture) and the EU objectives regarding air quality.

In 2015, in 24 out of 28 Member States binding EU air quality standards were exceeded – in total in over more than 130 cities across Europe. Thus the European Commission had to continue its **enforcement** activities. The Commission has taken infringement action against Member States over poor air quality since 2008, focussing initially on particulate matter (PM_{10}), for which the compliance deadline was 2005, and more recently also on nitrogen dioxide (NO_2), for which the compliance deadline was 2010. Infringement action now addresses NO_2 exceedances in 12 Member States, and on PM_{10} exceedances 16 Member States. Recently, the European Court of Justice has issued a ruling confirming the views of the Commission as regards PM_{10} exceedances in Bulgaria (http://curia.europa.eu/juris/celex.jsf?celex=62015CJ0488&lang1=en&type=TXT&ancre).

In parallel, and the European Commission has initiated a series of **Clean Air Dialogues** with Member States to discuss actions that will contribute to reducing emissions and improve air quality as well as contribute to compliance with EU regulations (Air Quality Directives and NED Directive). A first pilot phase is underway in 2017 (with Ireland (http://ec.europa.eu/environment/pdf/conclusions_CleanAirDialogue_Ireland.pdf), Luxemburg and Hungary). The purposes of the dialogues are to 1) better understand the models of implementation in Member States; 2) exchange of good practices between Member States; 3) promote synergies between policies on air and transport, climate/energy, agriculture etc.; and 4) raise awareness in Member States on the funding streams available through EU funds. Building on the experience from the pilot phase, the Commission will further develop this dialogue format.

In the same vein, the European Commission will launch the European **Clean Air Forum**, which will provide a basis for structured dialogues, exchange of knowledge and good practices, and to enhance capacity of relevant stakeholders to improve air quality. The Forum aims to reflect on the development of policies, projects and programmes in the context of air pollution and air quality, and facilitate the implementation of European, national and local air policies. The first Clean Air Forum is planned for 16 and 17 November 2017 with 300 participants and including a high-level segment at the City Hall in Paris. This edition of the Forum will focus on the three themes: air quality in cities, agriculture and air quality, and clean air business opportunities. The conference is open for all experts and stakeholder and updated information is available on the web (https://www.euconf.eu/clean-air/index.html).

In addition, the **EU Urban Agenda and the Air Quality Partnership** addresses the challenges specific to cities up to 2030. Air pollution has been identified as a main challenge for a sustainable urban agenda (https://ec.europa.eu/futurium/en/urban-agenda).

The recent publication of the European Commission **Environmental Implementation Review** (http://ec.europa.eu/environment/eir/index_en.htm) identifies air quality a key challenge for the EU Member States.

Finally, the **EU ambient air quality legislation will be evaluated** starting in 2017 and aiming for finalisation in 2019 (also called a "fitness check"). This exercise will be backward-looking only, i.e., it does not mean that the ambient air quality directive will be reviewed as such.

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Regions for Health Network (RHN) and Healthy Cities Network together to build environmental and social resilience

Since 1993, the WHO European Regions for Health Network (RHN) has helped regions to accelerate the delivery of improved population health. Working with WHO, RHN members aim to put Health 2020 into action in their own area. RHN is a forum to: create synergy between regions and stakeholders in the field of health issues (mutual learning); strengthen cooperation/collaboration between regional and local actors and the international institutions in health; promote the contribution of regions and local authorities, and particularly, health authorities to the international policy-making process; and increase the understanding of regional and local health systems (exchange of experiences).

Between 13 and 15 June 2017 an RHN delegation participated in the Sixth Ministerial Conference on Environment and Health, held in Ostrava, Czech Republic. During the conference a side event was organized, whereby some cities and regions presented the joint statement of the WHO Healthy Cities Network and the RHN. The statement affirms the pledge of the networks to bring global environment and health agendas to the subnational level through decisive, transformative joint action, best practice exchange and peer learning, multi-level and multisectoral collaboration, and the co-creation of solutions. The networks also confirm their commitment to take the vision, impetus and agenda from the side event and the Sixth Ministerial Conference forward, moving on with the conversation about joint challenges in environment and health. Regions and cities are very often on the front line in terms of the first response to citizens, which represents a very good reason why their alliance must be strengthened.

The event was attended by many key people from both of the networks and from WHO.

The Chair and participants highlighted many important outcomes, such as:

- safe, healthy, resilient and sustainable cities and regions are a goal shared by all, and it is important to move forward the conversation on these joint challenges, vision and leadership, ensuring the alignment of objectives.
- Patience and persistence are key to effecting change for the environment and health at subnational level; change is never easy or comfortable, but local, regional and municipal governments are important catalysts in this process, and smart, integrated approaches are needed and are being pioneered by the attending cities and regions.
- Cities and regions do not stand alone but operate in a honeycomb of institutions and governance levels – coherent processes to integrate governance mechanisms at all levels are needed, and are being worked on by the cities and regions involved.
- Local leadership is highly important in addressing global challenges – there are numerous opportunities to improve environmental determinants of health and well-being at both city and regional levels, in order to seize these opportunities and further the environment and health agenda at the subnational level.

For more information see: http://www.euro.who.int/en/about-us/networks/regions-for-health-network-rhn/news/news/2017/06/regions-for-health-network-rhn-and-healthy-cities-network-together-in-ostrava-to-build-environmental-and-social-resilience

Improving the Smart Control of Air Pollution in Europe – the iSCAPE project

Outdoor air pollution is one of the major challenges of the 21st century, and is attributed to around 3.7 million deaths globally (WHO, 2014). It is estimated that 92% of the world's population lives in regions where air pollutant levels are higher than the WHO specified limits (WHO, 2016). In addition, air pollution is also responsible for causing environmental damage such as acid rain; haze; eutrophication; ozone depletion; damages to crop, forest, and wildlife; and global climate change. Thus, there is a global drive to tackle this problem.

iSCAPE has the overall aim to develop and evaluate an integrated strategy for air pollution control in European cities grounded on evidence-based analysis. The project will develop the tools required to obtain an air pollution free/low carbon society by addressing air quality and climate change concerns together through the application of new smart and sustainable technologies for integration into urban design and guidelines. This will include the development and assessment ex-ante of a framework aimed at changing mobility behaviour and will harness emerging smart city capabilities and protocols to implement novel urban air pollution control strategies using improved policy-oriented information and technology. These abatement options will be assessed and/or applied to Living Labs (pilot sites) in six European cities (Bologna, Bottrop, Dublin, Guildford, Hasselt and Vantaa) and will be designed to achieve measures of reductions in: i) air pollution exposure, ii) climate change impacts, iii) air pollution emissions and iv) associated costs. The options to be investigated will be both policy- and technology-based, with direct impacts on personal exposure to pollution, on GHG and toxic emissions, and on climate change.

The specific OBJECTIVES of the project are:

1. Develop new sustainable and passive air pollution control strategies. Feasible air quality interventions in cities will be identified and evaluated based on scientific and social criteria which take into account the physical and architectonic characteristics of a city, its network of streets, population distribution and traffic conditions. The interventions to be examined will include Passive Control Systems such as low boundary walls, trees and hedge-rows, green walls and roofs, photocatalytic coatings, green urban spaces and road geometry.
2. Assess existing and proposed air pollution control technology and policy interventions for major air pollution sources in European cities. The impact and effectiveness of emission abatement and policy intervention measures under business as usual and potential alternative future scenarios will be assessed on emissions, overall air quality, and the human health benefits and health care costs.
3. Rapidly deploy innovative technological solutions. (i) A low cost sensing kit will be developed by exploiting recent developments in the connection of sensors and the availability of open source software platforms for managing huge volumes of data. The sensors will be deployed at air pollution related test-sites in high spatial resolution. (ii) Photocatalytic coating technology previously proven in controlled indoor environments will be deployed in a controlled public site and in real atmospheric conditions to assess its efficacy in improving air quality in local "hot-spots".
4. Customise an advanced integrated air quality modelling tool for the assessment of air pollution and associated control strategies. By utilising smart cities monitoring technology and data, the modelling tool will include an activity-based traffic module to analyse the indirect air pollution effects of measures in other policy domains.

5. Assess the interlinkages between air pollution and climate change. A hierarchy of models and scales will be employed to conduct coupled air quality-climate simulations for a selected set of European cities based on statistical downscaling of present and future scenarios.
6. Propose a conceptual framework for sustainable urban mobility. Proposed methods to attract citizens towards collective transport means and soft modes (walking and cycling) will be evaluated for selected test cities using evidence-based analysis provided by integrated air quality modelling.
7. Empower EU citizens with smart awareness raising activities and build capacity for decision makers through policy recommendations. In collaboration with local authorities, iSCAPE will engage citizens and give them a better understanding of abstract phenomenon such as air pollution and climate change by organising educational sessions on air pollution and health impacts ("teaching by showing").

References:

WHO 2014. Burden of disease from Ambient Air Pollution for 2012. http://www.who.int/phe/health_topics/outdoorair/databases/AAP_BoD_results_March2014.pdf (accessed 26 May 2017). World Health Organization.

WHO 2016. Ambient air pollution: A global assessment of exposure and burden of disease. http://apps.who.int/iris/bitstream/10665/250141/1/9789241511353-eng.pdf?ua=1 (accessed 26 May 2017). World Health Organization.

iSCAPE in brief:

Title: iSCAPE - Improving the Smart Control of Air Pollution in Europe

Funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689954 as a Research and Innovation Action

Duration: 3 years, Start Date: 1st September 2016

Consortium:

University College Dublin, Trinity College Dublin, Università di Bologna, University of Surrey, Ilmatieteen Laitos (Finnish Meteorological Institute), Universiteit Hasselt, Technische Universität Dortmund, JRC - Joint Research Centre - European Commission, - Institute for Environment & Sustainability, Institut D'Arquitectura Avancada De Catalunya - FabLab Barcelona, T6 Ecosystems srl, Nanoair Solutions S.r.l., Future Cities Catapult Ltd., Dublin City Council, Agenzia Regionale Prevenzione e Ambiente dell´Emilia-Romagna, European Network of Living Labs

Project Coordinator: Dr Francesco Pilla (University College Dublin)

Project Web Site: www.iscapeproject.eu @iSCAPEproject iSCAPEproject

Engaging new approach to air pollution reduction in cities

ClairCity is an innovative EU Horizon 2020 project that combines cutting-edge data analysis and modelling with public engagement to tackle air quality and carbon emissions in urban areas. Focused at a city or regional level, the aim of ClairCity is to apportion air pollution emissions and concentrations, carbon footprints and health outcomes by city citizens' behaviour and day-to-day activities in order to make these challenges relevant to how people chose to live, behave and interact within their city environment. Using six pilot cities/regions (Amsterdam, NL; Bristol, UK; Aveiro, PT; Liguria, IT; Ljubljana, SI; and Sosnowiec, PO), ClairCity is working with new methods of source apportionment to combine both baseline citizen and policy evidence not only by technology but by citizens' activities, behaviors and practices.

Through an innovative engagement and quantification toolkit, the project stimulates the public engagement necessary to allow citizens to define a range of future city scenarios for reducing their emissions to be used for supporting and informing the development of bespoke city policy packages out to 2050. By using a mix of methods including an online game, smartphone app, schools' competition and public events, ClairCity informs and empowers citizens to understand the current challenges and then subsequently define their own visions of their city's future based on how their want to live out to 2050.

The outputs from both the modelling and civic engagement are used to develop city specific policy packages in which the clean-air, low-carbon, healthy future, as democratically defined by the city citizens, is described and quantified. This gives participating authorities a set of policy lessons at city, national and supranational levels. The toolkit structure has been developed so that after the initial 2016-2020 timeframe of the project, the modelling and engagement activities could be adapted for use in all EU cities with more than 50,000 citizens, and in other cities and regions around the world. Authorities or organisations interested in finding out more can become ClairCity Associates to follow the project. For more information, visit the project website www.claircity.eu or contact Dr Enda Hayes, ClairCity Technical Director (enda.hayes@uwe.ac.uk).

Dr Tedros takes office as WHO Director-General

On 1 July Dr Tedros Adhanom Ghebreyesus took office as Director-General of the World Health Organization, succeeding Dr Margaret Chan, who has held office since 1 January 2007. The Director-General is WHO's chief technical and administrative officer and oversees the policy for the Organization's international health work.

Dr Tedros was elected on 23 May 2017, by vote of Member States at the Seventieth World Health Assembly. It was the first time that WHO Member States at the World Health Assembly selected a Director-General from among multiple candidates.

Prior to his election as WHO Director-General, Dr Tedros served from 2012–2016 as Minister of Foreign Affairs, Ethiopia. In this role he led the effort to negotiate the Addis Ababa Action Agenda, in which 193 countries committed to the financing necessary to achieve the Sustainable Development Goals.

Dr Tedros served as Minister of Health in Ethiopia from 2005–2012 where he led a comprehensive reform effort of the country's health system, including the expansion of the country's health infrastructure. He has also served as chair of the Board of the Global Fund to Fight AIDS, Tuberculosis and Malaria; as chair of the Roll Back Malaria (RBM) Partnership Board; and as co-chair of the Board of the Partnership for Maternal, Newborn and Child Health.

http://www.who.int/mediacentre/news/releases/2017/tedros-director-general/en/

Historic 20th meeting of the Joint Task Force on the Health Aspects of Air Pollution, 16-17 May 2017 in Bonn, Germany

In 1998, the Joint Task Force on the Health Aspects of Air Pollution (TFH) was established within the United Nations Economic Commission for Europe (UNECE) Convention on Long-Range Transboundary Air Pollution (CLRTAP). Its purpose is to evaluate and assess the health effects of such pollution and to provide necessary information and evidence in the field. Since its establishment, the TFH has continuously contributed to the work of the bodies of, and parties to, the CLRTAP by:

- collating and assessing available knowledge and data;
- identifying and collecting additional information and data needed for further assessment;
- quantifying the contribution of long-range transboundary air pollution to human health risks and
- defining priorities that may serve as a guide for monitoring and abatement strategies.

The 20th TFH meeting recognizes the sustainability of this intersectoral and multi-stakeholder process. By mobilizing the health and environment sectors to work together with the UNECE, Member States, the European Commission, civil society and academia, the TFH is helping to effectively tackle the issue of air pollution. Although the TFH originated within an environmental convention, it puts human health at the centre of its work. As such, it has proven to be an efficient platform for discussing and promoting these issues in the WHO European Region, alongside the pillars of evidence, communication, policy development and capacity-building.

Providing a solid evidence base for health policy

Over the past three decades of the CLRTAP, traditional environmental concerns have gradually shifted towards a stronger health perspective. The TFH has driven this change by disseminating evidence in a series of health assessment reports by pollutant: PM, POPs, ozone, nitrogen dioxide, heavy metals and black carbon. These reports strongly contributed to the global update of the WHO air quality guidelines in 2005, and to the amendment of the 1999 Gothenburg Protocol in 2012. The TFH also contributed to the 2016 CLRTAP scientific assessment report "Towards cleaner air" with the aim of providing a basis for considering new directions for policy development and identifying policy-relevant research questions.

As TFH chair, WHO/Europe coordinated the project "Review of evidence on the health aspects of air pollution/REVIHAAP" through its European Centre for Environment and Health in 2011–2013. The project provided the European Commission and its stakeholders, e.g. the TFH, with evidence-based advice on the health aspects of air pollution for the revision of European air policy. These activities also contributed to policy frameworks, such as the 2015 World Health Assembly resolution WHA68.8 on "addressing the health impact of air pollution", and to air quality topping the agenda at the 8th Environment for Europe Ministerial Conference in Batumi, Georgia, in 2016. As a leading environmental determinant of ill health, air pollution again was a priority area at the 6th Ministerial Conference on Environment and Health in Ostrava, June 2017.

Work of the Task Force continues

The TFH will continue to contribute scientific evidence and best practices to improve air quality in the Region. Complementing this activity, WHO recently initiated the process of updating the 2005 air quality guidelines. The updated version will consider scientific information published since the last revision, including on associations between some pollutants and adverse health effects at exposure levels lower than previously identified.

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Evolution of WHO air quality guidelines: past, present and future

by WHO (World Health Organization), 2017. Available in English. vi + 32 pages, ISBN 978 92 890 5230 6.

This document summarizes key WHO publications in the field of air quality and health since the 1950s, which led to the development of the series of WHO air quality guidelines. It outlines the evolution of the scientific evidence on the health effects of air pollution and of its interpretation, supporting policy and other decision-makers in setting outdoor and indoor air quality management strategies worldwide. Current WHO activities and their future directions in this field are also presented.

http://www.euro.who.int/en/publications/abstracts/evolution-of-who-air-quality-guidelines-past,-present-and-future-2017

Don't pollute my future! The impact of the environment on children's health

by WHO (World Health Organization), 2017.

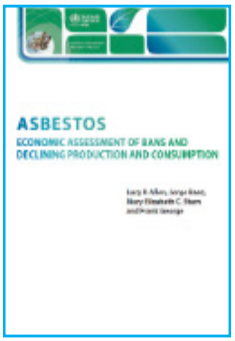
In 2015, 5.9 million children under age five died. The major causes of child deaths globally are inter alia pneumonia, prematurity, diarrhoea, injuries and malaria. Most of these diseases and conditions are at least partially caused by the environment. It was estimated in 2012 that 26 % of childhood deaths and 25 % of the total disease burden in children under five could be prevented through the reduction of environmental risks such as air pollution, unsafe water, sanitation and inadequate hygiene or chemicals.

Children are especially vulnerable to environmental threats due to their developing organs and immune systems, smaller bodies and airways. Furthermore, breastfeeding can be an important source of exposure to certain chemicals in infants. Proportionate to their size, children ingest more food, drink more water and breathe more air than adults. Additionally, certain modes of behaviour, such as putting hands and objects into the mouth and playing outdoors can increase children's exposure to environmental contaminants.

http://apps.who.int/iris/bitstream/10665/254678/1/WHO-FWC-IHE-17.01-eng.pdf?ua=1

Asbestos: economic assessment of bans and declining production and consumption

by WHO (World Health Organization), 2017. vi + 38 pages, ISBN 978 92 890 5248 1.



The global asbestos industry is shrinking as countries have increasingly banned and moved away from reliance on asbestos. This publication assesses the economic impact of declines in asbestos production and consumption and banning of asbestos use.

According to country-level data, no negative economic impact is observed. Since the importance of asbestos to the economies of current producer/consumer countries is similar to that of other countries that have already banned its use, this analysis suggests that countries currently consuming/producing asbestos would not experience an observable effect on gross domestic product from a ban on or a decline in asbestos consumption/production. In addition, the continued use of asbestos carries substantial costs related to health, remediation and litigation.

http://www.euro.who.int/en/health-topics/environment-and-health/health-impact-assessment/publications/2017/asbestos-economic-assessment-of-bans-and-declining-production-and-consumption-2017

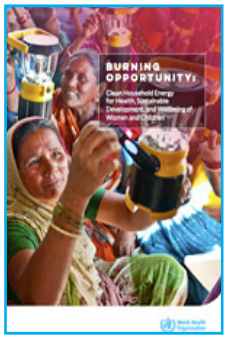
Environment and health for European cities in the 21st century

by WHO (World Health Organization), 2017.

With more than 80% of the European population expected to live in urban areas by 2030, cities play a pivotal role in steering the transition towards a low-carbon society as well as in promoting and protecting health and wellbeing, and preventing and mitigating socioeconomic inequalities among urban dwellers. This publication reviews the key drivers for change in the European urban environment, highlights the burden of disease in European cities, and discusses opportunities and barriers to action. Taking into account the responsibilities of cities in relation to several policy areas that have a direct impact on health and the environment, it also proposes possible ways forward to strengthen support for cities that are committed to addressing environment and health challenges in their communities.
http://www.euro.who.int/__data/assets/pdf_file/0020/341615/bookletdef.pdf?ua=1

Clean Household Energy for Health, Sustainable Development, and Wellbeing of Women and Children

by WHO (World Health Organization), 2016.



Household air pollution is the single most important environmental health risk worldwide, and women and children are at particularly high risk from exposure. This global report provides new data on the still-pervasive use of polluting fuels for home cooking, lighting and heating, as well as an in-depth look at the impacts on women and children. Despite more than a decade of work to reduce domestic air pollution sources, progress toward universal access to clean cooking fuels remains far too slow. By cleaning up household energy, we have an unprecedented opportunity to improve human health, slow down climate change and free hundreds of millions of people – especially women and children – from the drudgery of daily fuel collection.
http://www.who.int/indoorair/publications/burning-opportunities/en/

Urban green space interventions and health: A review of impacts and effectiveness (full report)

by WHO (World Health Organization), 2016.

There is a wide range of international agreements and commitments to enhance and support the establishment of green spaces in urban settings, as these are considered to provide a range of benefits to the urban population. Yet, little is known on the most effective ways to deliver urban interventions on green spaces, and how to make sure that the environmental, social and health benefits are maximized. To respond to this question, this new WHO report provides the results of an evidence review and an assessment of local case studies on urban green space interventions. The findings show that interventions to increase or improve urban green space can deliver positive health, social and environmental outcomes for all population groups, particularly among lower socioeconomic status groups. Yet, there is a need for better inclusion of health and equity outcomes in studies on green space interventions, and an improved monitoring of local green space management and related health and equity impacts.
http://www.euro.who.int/en/health-topics/environment-and-health/Climate-change/publications/2017/urban-green-space-interventions-and-health-a-review-of-impacts-and-effectiveness.-full-report-2017

OTHER PUBLICATIONS — OTHER PUBLICATIONS — OTHER PUBLICATIONS

Updated Handbook for the 1979 Convention on Long-range Transboundary Air Pollution and its Protocols

by UNECE, 2016.

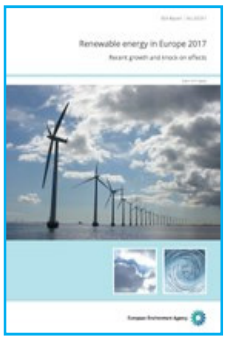
This updated handbook contains the Convention text and the most-up-to-date versions of all eight protocols to the Convention in their most recent amended version.

The Convention on Long-range Transboundary Air Pollution was the first international legally binding instrument to deal with problems of air pollution on a broad regional basis. It was signed in 1979 and entered into force in 1983. It has since been extended by eight specific protocols. It has substantially contributed to the development of international environmental law and has created the essential framework for controlling and reducing the damage to human health and the environment caused by transboundary air pollution. It is a successful example of what can be achieved through intergovernmental cooperation.

https://www.unece.org/index.php?id=41371&L=0

Renewable energy in Europe 2017 (EEA Report No 3/2017)

bby EEA (European Environment Agency), 2017.

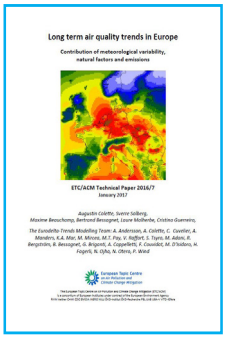


The aim of this assessment is to serve as a basis for considering new directions for policy development and for identifying policy-relevant research questions. The international co-operative approach, which includes interaction between science and policy, as developed under the Convention, provides a good basis for exploring synergies between air pollution and climate change, agriculture and biodiversity, and energy and public health policies on the urban, national, continental and hemispheric scale.

http://acm.eionet.europa.eu/reports/EEA_Rep_3_2017_Ren_energy_Europe_2017

Long term air quality trends in Europe (ETC/ACM Technical Paper 2016/7)

by EEA (European Environment Agency), 2017.



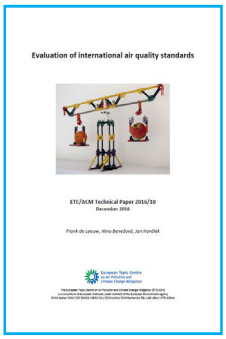
This report follows up on earlier ETC work on observed air pollution trends in Europe. It builds upon the Eurodelta-Trends modelling exercise (EMEP/TFMM) to attribute air quality evolution in Europe to anthropogenic emission trends, meteorological variability, and intercontinental air pollution.

Modelled ozone and particulate matter (PM) trends are compared to observations. Average maps of the evolution between 1990 and 2010 are presented. The attribution analysis demonstrates that emission reductions are the primary driver of both ozone and PM changes. Boundary conditions are mainly important for ozone trends. Depending on the region and pollutant, it can sometimes have a smaller impact than interannual meteorological variability

http://acm.eionet.europa.eu/reports/ETCACM_TP_2016_7_AQTrendsEurope

Evaluation of international air quality standards (ETC/ACM Technical Paper 2016/10)

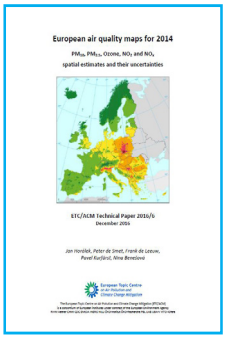
by ETC/ACM, 2017.



To protect man and ecosystems against the adverse effects of air pollution, many countries and international bodies have set air quality standards. This report compiles and compares standards as set by Australia, Canada, China, India, New Zealand, United States, European Union and the World Health Organization. The standards differ widely in level, averaging period and allowable number of exceedances. Using European air quality concentrations (reference year 2013) the frequency and magnitude of exceedances is assessed. A new metric indicating the expected reduction in exposure in case of full attainment with the standard has been developed.
http://acm.eionet.europa.eu/reports/ETCACM_TP_2016_10_AAQstandards

European air quality maps for 2014 (ETC/ACM Technical Paper 2016/6)

by ETC/ACM, 2017.



The paper provides the annual update of the European air quality concentration maps and population exposure estimates for human health related indicators of pollutants PM_{10} (annual average, 36th highest daily average as 90.4 percentile), $PM_{2.5}$ (annual average), ozone (26th highest daily max. 8-hr running average as 93.2 percentile, SOMO35) and NO_2 (annual average), and vegetation related indicators (AOT40 for vegetation and for forests) for the year 2014. The report contains also NOx annual average concentration map for 2014. The trends in exposure estimates in the period 2005-2014 for PM_{10} and ozone, resp. in the period 2007-2014 for $PM_{2.5}$ are summarized. The analysis is based on interpolation of annual statistics of the 2014 observational data reported by EEA Member countries in 2015 and stored in the Air Quality e-reporting database. The paper presents the mapping results and gives an uncertainty analysis of the interpolated maps, including the probabilities of exceeding relevant thresholds.
http://acm.eionet.europa.eu/reports/ETCACM_TP_2016_6_AQMaps2014

Special Issue „Human Biomonitoring 2016"

Edited by Gerda Schwedler, Anke Joas, Antonia M. Calafat, Douglas Haines, Shoji Nakayama, Birgit Wolz, Marike Kolossa-Gehring, 2017.

The special issue „Human Biomonitoring 2016", Volume 220/2 Part A of the International Journal of Hygiene and Environmental Health has been published. It is based on the contributions to the 2nd International Conference on Human Biomonitoring, Berlin 2016, entitled "Science and policy for a healthy future", jointly organized by the German Environment Agency and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. The 34 articles illustrate the state of the art of worldwide human biomonitoring (HBM). The articles deal with worldwide important human biomonitoring (HBM) programs, with innovative HBM methods, with HBM as a tool for health risk assessment and also with the relevance of HBM for health-related environmental protection – Europe-wide and worldwide. All articles now are available online as open-access:
http://www.sciencedirect.com/science/journal/14384639/220/2/part/PA

COMING EVENTS — COMING EVENTS — COMING EVENTS — COMING EVENTS — COMING EVENTS

2017

29th Conference of the International - Society for Environmental Epidemiology
24–28 September, Sydney, Australia. http://www.iseepi.org/Conferences/future.htm

14th International Conference on Urban Health - Health Equity: The New Urban Agenda and Sustainable Development Goals
26–29 September, Coimbra, Portugal. http://www.icuh2017.org/

Air Protection 2017 - 10th Scientific and Professional Conference
3–7 October, Primosten, Croatia. http://www.huzz.hr/

4th World Conference on Climate Change - Updating our Understanding: Earth's Climate is Warming
23–25 October, Milan, Italy. http://climatechange.conferenceseries.com/

10th European Public Health Conference - Sustaining resilient and healthy communities
1–4 November, Stockholmsmässan, Stockholm, Sweden. https://ephconference.eu/

Clean Air Forum
16–17 November, Paris, France. https://ec.europa.eu/info/events/cities-events/clean-air-forum-2017-nov-16_en

2018

21st Annual Meeting - Clearing the Air on Indoor Air Quality
22–24 January, Chicago,USA. http://www.iaqa.org/annual-meeting/

Air Quality 2018
12–16 March, Barcelona, Spain. http://www.airqualityconference.org/

26th International Conference on Modelling, Monitoring and Management of Air Pollution
19–21 June, Naples, Italy. http://www.wessex.ac.uk/conferences/2018/air-pollution-2018

ISES-ISEE Joint Meeting
26–30 August, Ottawa, Canada.

11th European Public Health Conference 2018 - Winds of change: towards new ways of improving public health in Europe
28 November–1 December, Cankarjev Dom, Ljubljana, Slovenia. https://ephconference.eu/repository/conference/2018/Ljubljana_2018_A-5_card_def.pdf

2019

European Aerosol Conference EAC 2019
25–30 August, Gothenburg, Sweden.

Thirty-First Conference of the International Society for Environmental Epidemiology
25–28 August, Utrecht, The Netherlands.