



In this issue

Editorial	1
EFCA goes global.....	1
News from EFCA.....	3
Welcome Address to KOSEA Assembly.....	3
New EFCA Website	4
News from EFCA Members	4
Work on Redrafting the Scottish Government's Flagship Cleaner Air For Scotland (CAFS) Strategy.....	4
“AIR PROTECTION 2019”; 11th Croatian Scientific and Professional Conference	7
20th Anniversary of the Environmental Research Center “Schneefernerhaus”	8
Calendar	9

Editorial

EFCA goes global

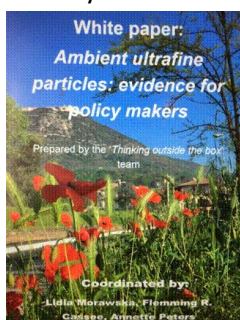
by Andrzej Jagusiewicz, president of EFCA

At the 18th World Clean Air Congress (WCAC), held recently in Istanbul, the President of EFCA had the privilege and honour to co-open the Congress and EFCA had its side-event on „Integrating action for cleaner air and climate protection, fraction-by-fraction approach with focus on ultrafine particles (UfPs)”.



It has been so far the best opportunity to us to demonstrate our scientific evidence on this particularly harmful fraction of particulate matter covering its characteristics and toxic potency to our health and of course to voice at this global stage our policy proposal related to UfPs. Let's say EFCA provided a kind of state-of-play.

The speakers, a rather well tuned orchestra, played unanimously in favour of the White Paper, a document addressed to WHO at its final stage of preparation by the world-known scientists and presented on the occasion by prof. Lidia Morawska from Queensland University of Technology (Australia), who is a driving force of the team. The White Paper aims at presenting the evidence of UFPs for policy makers covering exposure, toxicology and epidemiology. By chance it has been just finalized, but yet needs to be completed by epidemiological meta-analyses expected by the end of the year.



[https://efca.net/files/WHITE_PAPER-UFP_evidence_for_policy_makers_\(25_OCT\).pdf](https://efca.net/files/WHITE_PAPER-UFP_evidence_for_policy_makers_(25_OCT).pdf)

Although, the theories underpinning UFP emission and formation process are generally well developed and

the toxicological evidence of potential detrimental effects of UFPs on human health is sufficient, the existing body of epidemiological evidence is still insufficient to conclude on exposure/response relationship to UFPs. So we are still in the waiting room and let's hope that it is for a short while. The final and most urgent conclusion from the WCAC that integrated climate and clean air strategies focused on Short-Lived Climate Pollutants (SLCPs) could greatly contribute to climate stabilisation and cleaner air, provided that we all act quickly. This conclusion is exactly echoing our policy related to UFPs, which means that the main challenges and opportunities for securing cleaner air at global, regional and city level must include UFPs.

The Congress also concluded that prospects for climate stabilisation and cleaner air need speeding up the energy transition, mainly through further decarbonization, what can simply mean less UFP in the air, and that global action driven by WHO now needs to develop an international strategy that should deliver substantial reductions in mortality and morbidity. Needless to add that UFP must be

included into the revised guidelines on air quality standards.

And finally it has been stated in Istanbul that enhanced regional cooperation will have important role to play in both climate stabilisation and as a step towards effective global cooperation on air pollution and that action on air quality at urban and local scales should take into account the cost-effectiveness of local measures and incorporate more effective citizen and societal engagements. Needless to write that the best instrument to control air pollution is the Air Convention of the UN/ECE. But it needs geographical extension and region-specific solutions, because it is so far only a regional instrument. Let's hope that regional solutions will include control regime for UFPs, which kills locally via SMOG. A recent India's case is the best argument to act.

EFCA and its members should therefore participate in the development and activities of the International Forum for Cooperation on Air Pollution at the global level to be launched under the Air Convention at the forthcoming 39th session of its governing body to be held in December in Geneva. There are great opportunities for EFCA and its confederated organizations to build on – and take advantage of - this initiative. Shortly to contribute the Air Convention into a global instrument.

To sum up: if we are to tackle together with IUAPPA, the global air pollution challenges implementing the Istanbul guidance, then any global action must include UFPs. Let's call it "Post-Istanbul agenda".

News from EFCA

Welcome Address to KOSEA Assembly

by Andrzej Jagusiewicz, president of EFCA

“Mr President, KOSAE members and friends

It is my great honour and pleasure to address your Assembly on behalf of the Executive Committee and national member organisations of the European Federation of Clean Air and Environmental Associations, at this crucial moment in our fight for a better world.

It is a crucial moment because from next year IUAPPA's Secretariat and new Director General, Professor Young Sanwoo, will lead our work from Korea and not from the UK and Europe as did his predecessor Richard Mills. I had the privilege to witness this transfer of power during the 18th World Clean Air Congress (WCAC) recently held in Istanbul and was among those who unanimously welcomed the change with confidence and hope but also a clear recognition of the challenges and opportunities it offers.

But before I comment on these opportunities and challenges let me first on behalf of our European organisation officially congratulate the new Director General, who I have known for many years and therefore can fully trust his commitment and devotion to his new duties.

Mr President, this is a crucial moment not only due to a personal change but primarily because of the strong and urgent response needed from Asia, a continent still contributing too much to both climate change and air pollution at all levels from local to global, and suffering too much from it. At the global scale, while climate protection is already regulated through the UNFCCC, the necessary symmetry and synergy between climate and air protection - and the cost-effectiveness it would promote - is still missing. At the regional scale there is yet no agreed control regime in Asia for pollutants responsible for acidification, eutrophication and tropospheric ozone, including short-lived climate pollutants.

The conclusions from the IUAPPA World Clean Air Congress based on our shared ONE ATMOSPHERE

approach highlight climate and air pollution interactions and identify the most urgent challenges on the path to global atmospheric symmetry and synergy. EFCA fully identifies itself with the outcome of the Congress and sees its main current project, on. ULTRA-FINE PARTICLES (UfPs), as a key contribution to this shared endeavour.

Colleagues, you will know that UfPs are contributing to global warming through direct forcing mainly via black carbon and affect our respiratory and cardiovascular systems. That's why we are knocking at WHO's door to get a new metric on UfPs expressed as particulate number concentration (PNC). The latter seems the best predictor for health effect, because UfPs contribute little of the mass in measures of PM (both PM_{2.5} and PM₁₀), but have high number density and high surface area. If we are to tackle the global air pollution challenges, then any global action must include UfPs.

The same goes for regional cooperation, where IUAPPA and Korea can take a lead! As you know the Long-range Transboundary Air Pollution Convention (the Air Convention) is so far only a regional instrument for the UN region covering North America, Europe and countries that emerged from the collapse of the former Soviet Union. They form so called EECCA- Eastern Europe, Caucasus and Central Asia and all are the members of the United Nations Economic Commission for Europe (UN/ECE).

One of the conclusions from Istanbul calls explicitly for the opening of the Air Convention to accession for non-ECE members; needless to add in first instance from your region, to foster hemispheric cooperation.

This conclusion received strong support from the Global Atmospheric Pollution (GAP) Forum meeting held in parallel with the WCAC. It called independently for promoting awareness of the Air Convention across the world and argued in particular for enhanced co-operation on long-range air pollution particularly with East Asia.

The best opportunity to promote this will be at the forthcoming 39th session of the governing body of the Convention to be held in December in Geneva,

I wish you a fruitful meeting and a smooth transfer of power and look forward to our close and effective cooperation”.

last year to chair the review of the national strategy which aims to make Scotland's air quality the best in Europe.



The original CAFS strategy - 'The Road to a Healthier Future' – was published in November 2015 and made provision for stricter limits on air quality objectives in Scotland than existed at that time in the rest of the UK and Europe.

It represented a constructive, collaborative approach

involving a wide range of different organisations. The aim was to reach compliance by 2020 with EU, UK and Scottish legislative targets and significantly reduce the country's 38 Air Quality Management Areas (AQMA's).

Professor Gemmell, whose report was published in August, made 10 high level recommendations for further action. These were mainly in relation to transport emissions, behaviour change in relation to private vehicles, ammonia emissions, indoor air pollution, industrial emissions and domestic burning, especially from wood burning stoves in urban areas.

A common theme of the report was the need to change people's behaviours, particularly in relation to private vehicle use, burning practices and farming practices and there are calls for more research into air pollution impacts in Scotland.

He found that in general terms Scotland had performed well by comparison with the rest of the EU and the world overall. The country has witnessed falling levels of regulated pollution emissions and ambient air pollutant levels.

However, the report said that more needs have to be done, particularly in relation to certain emission sources, in particular in respect of sources of ammonia.

There is clear emphasis on the need for encouraging public behaviour change and for interventions such as the creation of more dedicated cycle and walking routes.

There is a need to ensure that communities where people live consider the latest design principles which aim to stimulate a cleaner and healthier environment. Known as 'Placemaking' this can be achieved by making areas safer and easier to use for pedestrians and having cycle paths and building developments in close proximity to public transport networks.

The review looked at scientific evidence from across the world and concluded that the minimum demand should be to reduce air pollution levels to meet existing health-based limits.

It said international evidence suggested that further reductions in air pollution levels would bring additional public health and environmental benefits, particularly around the issue of long-term exposure to pollutants.

There are no regulated limits for indoor pollutants in households in the UK. The review people living in urban areas spend 90% of their time inside meaning that the air they breathe inside is as important as that outside.

Up to three-quarters of indoor pollutants are concentrations of either NO_x, SO₂, O₃ and Particulate Matter (Pm) and can be explained by variations in outdoor air quality. Sources depend on the setting. Air pollution comes from burning fuels for heating and cooking, cigarette smoke and cleaning chemicals or products that use perfumes.

Road transport emissions are the largest source of kerbside air pollution concentrations and poor air quality in urban areas of Scotland and contribute over one-sixth of total PM10 and one-third of NO_x emissions. Scotland is in the process of introducing Low Emission Zones (LEZs) in the four main cities.

The review called for more effort to change public attitudes towards private car use. Electric vehicles cannot be relied on to solve all of the public health and congestion problems in Scotland.

Young people in the UK are driving less now than their predecessors did 20 years ago with the total number of car trips by those in the 17-29 age group falling by between 24% and 28%.

In his report Professor Gemmell added that a surge of interest in cycling had not been reflected across Scotland overall and targets for cycling uptake had not been met and bus services needed to run quickly and efficiently, with priority lanes, to encourage people to use them more frequently.

The review suggested additions to the existing trunk road and motorway network in Scotland should end by 2024 in an effort to curb reliance on private vehicles and cut emissions with the funds that would have been spent to be earmarked for building cycle paths.

A study in Denmark had found that for every kilometre travelled by bike instead of by car was worth 1 Euro per person in terms of health benefits.

The review stated that Scotland should aim to follow the strategy of the UK Government's Department of Environment, Food and Rural Affairs (DEFRA) on domestic combustion emissions.

Emissions from wood burning in UK cities fell in the six years leading up to 2015 due to the replacement of traditional open fires and older stoves with more modern equipment which produce less PM10 and PM2.5.

Around 44% of wood in Scotland is burned on open fires and 51% in stoves and questions remain about how people can be encouraged to upgrade to the latest industry-standard 'Ecodesign' stoves which can drastically reduce emissions. The review stressed the importance of educating people about good burning practices.

Approaches to dealing with ammonia emissions in England, Denmark, the Netherlands and Germany could inform the future of Scotland's approach to these emission sources.

Scotland emits around 34 kilotons of ammonia, which made up 12% of UK emission and levels have fallen by 12% since 1990, a rate that is slower the fall in emissions seen by other pollutants.

There has been a decline in animal numbers and fertiliser use since then, but this has been offset by a rise in urea-based fertilisers leading to higher emissions and they have plateaued since 2008.

Although most agriculture emission sources have fallen in Scotland in the last 29 years, the sector still produces large amounts of PM10, PM2.5 VOC's and emissions linked to laying hens have risen since 2008.

It was recognised that a comprehensive framework already existed for industrial emissions in Scotland. The question is whether it would benefit the environment to bring unregulated sectors that have not been prescribed by EU legislation under the remit of existing legal frameworks for air emissions. Increasingly the air quality and climate change debate are inter-linked. The Scottish Parliament recently passed legislation that commits Scotland to producing 'net-zero' greenhouse gas (GHG's) emissions by 2045, five years ahead of the overall target set for the United Kingdom by the Committee on Climate Change.

In a speech to the Scottish Transport Emissions Partnership conference in Edinburgh on November 7th, Ms Cunningham said that there had been substantial reductions in some pollutants in recent years, but more work was needed to curb emissions of ammonia.

She added: "Moving to the next stage will be challenging, it's not always going to be easy – there are not necessarily easy answers to some of the questions we have to ask ourselves - but we do have a significant opportunity to align our action on air quality with Scotland's increased levels of ambition to tackle climate change and to improve Placemaking. We are starting from a really good place in Scotland, and we can continue to draw encouragement from this, as we continue to work towards our over-arching ambition of Scotland having the best air quality in Europe".

Consultations have taken place regarding the review's main recommendations with key stakeholders and other interested parties. The drafting of the new strategy is expected to take place in the first part of 2020.

Scottish Government ministers have not taken a decision yet on which of the review's recommendations will be included in the revised CAFS strategy. This will come later. The new CAFS strategy is expected to be published by the end of 2020.

Further links:

The CAFS Review report

<https://www.gov.scot/publications/cleaner-air-scotland-strategy-independent-review/>

The CAFS strategy

<https://www.gov.scot/publications/cleaner-air-scotland-road-healthier-future/>



“AIR PROTECTION 2019”; 11th Croatian Scientific and Professional Conference

by Gordana Pehnec; CAPPA

The 11th Croatian Scientific and Professional Conference “AIR PROTECTION 2019”, organized by the Croatian Air Pollution Prevention Association (CAPPA) was held in Bol (island of Brač, Croatia) from 15 to 19 October 2019. The co-organizers were the Institute for Medical Research and Occupational Health, Zagreb, Croatian Meteorological and Hydrological Service and the European Federation of Clean Air and Environmental Protection Associations – EFCA. The Conference was organized under the auspices of the Croatian Ministry of Environment and Energy. It gathered more than 120 participants from multiple European countries. The 55 presentations (41 oral and 14 poster presentations, in Croatian and English language) were devoted to the following topics:

1. Managing air quality – inspection and control
2. Atmospheric emissions of pollutants
3. Monitoring ambient air pollution

4. Developing and testing measuring methods
5. Estimating exposure to air pollutants and impact on health
6. Air protection in physical planning, construction and environmental protection
7. EFCA session: “Ultrafine particles - air quality and climate: State of Play related to scientific evidence and policy proposal”

The accepted abstracts have been published in the Book of Abstracts which will be available soon at www.huzz.hr.

The first introductory lecture was presented by Richard Mills from IUAPPA, who pointed out the outcomes of the 18th World Clean Air Congress, held two weeks earlier (23-29 September 2019) in Istanbul, Turkey. The second introductory lecture was about the reform of air quality monitoring system in Poland, and in the absence of Paweł Ciećko, Polish Chief inspector of environmental protection, it was presented by the president of EFCA, Andrzej Jagusiewicz. The introductory lectures were followed by a round table and presentation of the AIRQ project – Expansion and modernisation of the national network for continuous air quality monitoring in Croatia - which is funded by the European Regional Development Fund within Operational Programme Competitiveness and Cohesion 2014-2020 (85 %) and the Environmental Protection and Energy Efficiency Fund of Croatia (15 %).

As at the three previous Air Protection conferences in 2013, 2015 and 2017, a special session was organized by the EFCA. This year, the EFCA session was entitled “Ultrafine particles - air quality and climate: State of play related to scientific evidence and policy proposal”. It was held on Thursday, October 17th, and included five presentations.

The session was opened by the EFCA president Andrzej Jagusiewicz, who presented UfP - integrating action for cleaner air and climate protection. Targeting ultrafine particles (UfP) properly is important in formulating policy to reduce emissions of toxic air pollution and climate forcers. Present policies to decrease exposure to particulate matter use mass-balanced metrics for

fractions PM2.5 and PM10, which do not properly represent all risks for human health. There are considerable differences in the toxic potency of UfPs from various sources when using mass as the unifying metric. Therefore, EFCA is in favour of developing a fraction-by-fraction approach to particulate matter both with respect to size and chemical composition and even particulate concentration. Also, the EFCA strongly supports the role of integrated policy as opposed to the current practice of separate sectoral policies in combatting air pollution and mitigating climate change. The second presentation in the EFCA session was held by John Murlis, vice president of EFCA (Environmental Protection, UK) and it was about managing large sources of UfP, such as emissions from shipping. Thomas Reichert (KIT, Germany) presented the results of the 7th EFCA symposium Ultrafine Particles - Air Quality and Climate. Konstantinos Eleftheriadis (NCSR Demokritos, Greece) presented fine and ultrafine particle number size distributions at urban, suburban background and remote sites in Greece. The last presentation within the EFCA session, by Maria I. Gini (NCSR Demokritos, Greece) was about microphysical and chemical properties of fine and ultrafine particles at a typical Mediterranean suburban environment and their dependence on air circulation patterns.



20th Anniversary of the Environmental Research Center "Schneefernerhaus"

by Thomas Reichert, GUS and EFCA past president

As part of the anniversary celebration "20 years of Schneefernerhaus", the State of Bavaria's medal for outstanding merits in regard to the environment was awarded to Dr.-Ing. Karl-Friedrich Ziegahn from Baden-Württemberg.

Dr.-Ing. Ziegahn, officiating president of GUS, directs the research unit "Natural and built environment" of the KIT (Karlsruher Institute for Technology), which has one branch in Garmisch-Partenkirchen and forms part of the Bavarian climate alliance.



As a representative of the partner institute KIT, and Vice President of the Council of the Environmental Research Center Schneefernerhaus, Dr.-Ing. Ziegahn contributed with great dedication to establishing the Schneefernerhaus as an internationally leading competence center for altitude & climate research.

Calendar

39th Session of the Executive Body of the Air Convention in conjunction with the celebration of its 40th anniversary,

9-13 December 2019, Geneva; Switzerland

<https://www.unece.org/index.php?id=50348>

VDI/BAuA Expert Forum

Bioaerosols: From measurement to assessment,

27/28 November 2019, Berlin; Germany

<https://www.vdi.de/veranstaltungen/detail/bioaerosols-from-measurement-to-assessment>

Focus Meeting 14: Third Atmospheric Ice Nucleation Conference

10-11. January 2020; Boston; USA

<https://aerosol-soc.com/>

ICEAH 2020: 14. International Conference on Environment, Air Pollution and Health

27-28 February 2020, Sydney; Australia

<https://www.aaar.org/2019/>

Science and Application 12th International Conference on Air Quality

9-13 March 2020, Thessaloniki; Greece

<https://eac2020.de/>

28th International Conference on Modelling, Monitoring and Management of Air Pollution

8 – 10 June 2020 Seville; Spain

<https://www.wessex.ac.uk/conferences/2020/air-pollution-2020>

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Newsletter

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