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Post-CAFÉ in Brussels-mobilisation in Geneva

When concluding the European Thematic Strategy on Air Pollution (TSAP) and the related Cleaner Air For Europe (CAFE) Directive in 2005, the driving force to cut emissions of toxic pollutants were the more than 400.000 premature deaths annually in the EU-25. Almost ten years later, when revising the National Emission Ceilings Directive by the now EU-28 (plus Bulgaria, Croatia and Romania) the driving force was the same, if not even worse. As a matter of fact, in 2014 the European Environmental Agency (EEA) estimated that similar number of mortal cases was due to particulate matter alone, and even worsened the overall picture by adding an estimated 75.000 premature deaths due to nitrogen dioxide and another 13.000 due to ozone.

Meanwhile, the emission trends and emission-intensity of Gross Domestic Products (GDP) as well as the concentrations of pollutants are decreasing almost everywhere in Europe. So why the higher number of deaths quite contrary to the forecast from the CAFE impact assessment e.g. at least 30 % less fatalities in 2020? The imposing conclusion may be that Thematic Strategy on Air Pollution and CAFE have failed to achieve their targets, as the three new member States couldn't in any case outweigh the progress made in the EU-25.

There are a few reasons for the worrying statistics. First of all, emission inventories are getting to improve and more and more sectors are being taken into

consideration. Thus the former emission levels are positively corrected, estimations of premature deaths are correlated accordingly and better evidenced. Another reason is quite simple, progress is real, but not rapid enough in the most polluting sectors e.g. energy and transport and almost absent in others, agriculture and household. Unfortunately, toxic pollution is still under-recognized in general in the world today, although it is the main cause of disease and premature deaths. The Lancet Commission on Pollution and Health puts pollution's toll at 9 million a year—causing three times more deaths than malaria, AIDS and TB combined, and 15 times as many deaths as wars and other forms of violence. Therefore toxic pollutants are not co-pollutants along with greenhouse gases, mainly CO₂ when fossil fuels are burned, as pointed out former US Vice-president Al Gore at the recent World Economic Forum held last month in Davos (Switzerland)

The EU has already prepared a kind of post-CAFE stage, introducing the Clean Air Policy Package with three new instruments to further reduce toxic emissions and extending their source coverage. In terms of importance, the first canon is the new National Emission Ceilings (NEC) Directive 2016/2284/E, which entered into force on 31st December 2016. It aligns emission ceilings for sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOCs), ammonia (NH₃) and particulate matter (PM_{2,5}) with the 2012 revised Gothenburg Protocol under the UNECE Air Convention.

The NEC Directive ceilings are more stringent than those set in the earlier directive and must be met by 2020. But this Directive also sets new emission commitments for these five pollutants by 2030 aimed at reducing by half the health impact as compared to 2005. More precisely, it's assessed that in 2030 we can expect 54% less premature mortality due to PM and ozone, but also harvesting the positive

impact of the Directive on Industrial Emission 2010/75/EU (IED) in force since 2014.

The lighter canon on the stage is the Medium Combustion Plant (MCP) Directive 2015/2193/EU, which regulates emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and dust from the combustion of fuels in plants with a rated thermal input equal to or greater than 1 megawatt (MWth) and less than 50 MWth. The MCP Directive entered into force on 18 December 2015, and was transposed by Member States by 19 December 2017. More than 140.000 plants have been since taken under the regime of emission limit values to be applied from 20 December 2018 for new plants, and by 2025 or 2030 for existing plants, dependent on size.

And finally, small combustion appliances like heaters and boilers <1 MWth are covered by the Ecodesign Directive 2009/125/EC, which sets for them mandatory ecological requirements to decrease energy consumption and thus reduce pollutant emissions.

Needless to say that such strong instruments of the EU to cut emissions, which also ensures the implementation of obligations arising from the Gothenburg Protocol (GP), an adequate response from its Parties has to come in order to fight hand-in-hand with deadly pollution, not only in Europe but also outside it.

It came in the decisions of the 37th session of the Executive Body (EB) to the UNECE Air Convention held in Geneva last December. First the EB urged Parties to ratify as soon as possible the Gothenburg Protocol, whose emission ceilings for EU Member States were too simply transposed to the NEC Directive as 2020 commitments. But at the time of the session, 9 acceptances were still required of the 27 signatories to the Amendments of the original Gothenburg Protocol for the entry into force of the revised instrument. For sure it will happen before 2020 and then the required emission reduction for the 5 pollutants by

Brussels and Geneva, at least for the EU, will be finally equal. But what about the other countries of the UNECE region, which count 56 Member States as members?

No problem with Canada and the United States, already parties, and Norway and Switzerland are ready to ratify the Protocol soon. The problem is with the countries in economic transition, so far not included in the mandatory ceilings while benefiting from a generous flexibility to meet the Protocol's emission standards. These are countries from Eastern Europe, Caucasus and Central Asia (EECCA) and the West Balkans (WB). The first group counts twelve States, including Georgia, Kazakhstan, the Russian Federation and Ukraine, while the second only five, with Serbia as the biggest. These countries are by far considered as target countries in the fight against transboundary pollution in the UNECE region.

That's why the Executive Body stressed very strongly, echoing the Batumi Action on Clean Air (BACA) that broadening the ratification of the Convention and its Protocols was the primary objective and that the time has come to consider the need to further reduce emissions of pollutants covered by the Gothenburg Protocol, in particular ammonia emitted from agriculture, and to take appropriate steps towards reducing emissions of black carbon. The latter has been since 2012 the subject of EFCA's policy initiative.

The implementation of the Convention and all its current protocols is self-supportive, but to give it more power, the EB has also inscribed it as an absolute priority with its revised long-term strategy. Let's hope that both EECCA and WB countries will finally get their mandatory emission ceilings by 2030 regardless of the necessity to introduce BAT-based emission limits for stationary sources and modern EURO standards for fuels and exhaust gases from vehicles. This is the only way to level the playing field in combatting air pollution in the EU and the UNECE region as a whole.

EFCA can be also satisfied with another decision by the last EB, that it should strive for an integrated approach to environmental policy, which means inter alia, that slowing climate change co-benefits air pollution policies and measures, and in turn climate policies effects air pollution. This decision indirectly supports our approach „ONE ATMOSPHERE”.

In view of the Brussels and Geneva commitments, perhaps the time has come to refine our potential policy initiative on new standards for ultrafine particles, adding to the weight of that fraction in the air also the number of particles present in the given volume of the air we breathe. The proposal has been well-substantiated via a series of EFCA scientific Symposia and may need only further work on applicability in term of monitoring methodology and techniques. Together, via strengthened and more focused cooperation we can do it.

By Andrzej Jagusiewicz

President of EFCA



News from EFCA and Members

EFCA's 27th Assembly was held in Primošten, Croatia at the Tenth Croatian Scientific and Professional Conference, convened by the Croatian Air Pollution Prevention Association.



Professor Thomas Reichert, President for the last five years stepped down and Dr Andrzej Jagusiewicz succeeded President for an initial three year term.

The assembly agreed a draft strategy for the period 2017 to 2021. The Federation will continue to work on improvement of the EU Clean Air Package, with a special focus on:

- Improving the balance between source-based policies (emission controls, for example, and ambient air quality requirements)
- Improving legislation on Ultra-fine Particulates, recognising that a significant fraction of UfP comes from non-combustion traffic related sources, including brake pads, lubrication oil and road surface abrasion
- Integrating indoor and outdoor air quality in overall health impacts assessment
- The handling of natural air pollution sources, notably air-borne sand and soil, with an air quality framework; a problem of particular concern to EFCA members in Southern Europe, but increasingly being felt in Central and Northern Europe.

EFCA will continue to develop its work on urban transport and on controls on non-road mobile machinery.

EFCA remains committed to a “one atmosphere approach to its work with the long term aim of

achieving harmonization between laws governing the human impact on the atmosphere as a whole. Integration between climate change and clean air policies is consistent with this approach and EFCA will continue to develop links with the CCAC, the Climate and Clean Air Coalition.

EFCA Assembly also agreed on some emerging topics:

- Biodiversity and Agriculture; it is recognised that air pollution impacts on biodiversity and is increasingly a concern because of its impact on food production.
- Clean energy, promoting the benefits of clean energy policies with the EU Clean Air Package
- Toxic release to the atmosphere, a review of current legislation with commentary on what further measures might be appropriate.

The Strategy will be finalised at the next meeting of the Assembly.

The Assembly also agreed to participate in the IUAPPA World Clean Air Congress, in Istanbul 23 -27 September 2019



The Tenth Croatian Scientific and Professional Conference “AIR PROTECTION 2017”, convened by the Croatian Air Pollution Prevention

Association (CAPPA) was held in Primosten from 3 to 7 October 2017 under the supervision of Mrs. Gordana Pehnek, President of the Organizing Committee. It gathered more than 150 participants from several European countries and was conducted in Croatian and English. The presentations, more than 60, were devoted to management of air quality, emission sources monitoring, enforcement, exposure to air pollution and finally the relationship between air pollution and physical planning. One of the sessions were prepared by EFCA, where its

experts, apart introducing EFCA policy and emerging issues, covered such topics like emissions from ships, contribution of maritime traffic to air quality, monitoring and verification of CO₂ emissions in harbors and challenges related to PM measurement.

Another session was prepared by IUAPPA, EFCA's partner devoted to air pollution in cities.

Moreover, EFCA's President co-opened the event as well as did the President of IUAPPA.

The Conference ended with a full-day scientific excursion to the National Park Krka.



The 73rd Congress of the ATI, Italian Thermotechnical Association, will be held in Pisa (Italy) from 12 to 14 September

2018. The core issue will be the profound change that the power sector is undergoing and that it is expected in future to comply with the international agreements under the Kyoto Protocol. Since its foundation, in 1918, ATI has taken a leading role in research, innovation, design and promotion of the technologies in the energy and thermo-technical sectors. The 73rd annual meeting will be the best occasion, for representatives of Universities, industries and institutions, to make the point of the national situation but also to discuss how to face the new challenges regarding the evolution of production, distribution and use of energy, within the European and the global contest. EFCA has confirmed its participation in the Congress and will demonstrate the role of cleaner energy in combatting air pollution.

Topics:

1. Heat transmission and thermo-fluid dynamics
2. Energetics in buildings and systems, automation and IoT
3. Air conditioning systems and indoor environment quality

4. Environmental sustainability in energy systems
5. Production and use of cold
6. Alternative and renewable energy sources
7. Energy efficiency in industrial uses
8. Energy multi-generation technologies and systems
9. Innovative propulsion systems and internal combustion engines
10. Turbomachinery
11. Advanced systems for conversion, accumulation and recovery of energy
12. Fuels and combustion

Deadlines:

1. Submission Abstract - March 30, 2018
2. Acceptance - April 21, 2018
3. Submission of draft articles - 21 May 2018
4. Submission of the final article - 10 July 2018

<https://www.axeacongress.com/ati2018>



To celebrate its 60th anniversary, the French Clean Air Association- APPA- is pleased to announce a joined meeting with EFCA, to be held in Lille, France, on November 29th and 30th, 2018.

This meeting will include invited conferences and oral as well as poster presentations in the field of microsensors, with focus on ultrafine particles (UFP). Both organizations will held during the event their Assemblies devoted *inter alia* to refine a policy initiative on metric of UFP expressed in number of particles per air volume. A call for papers will be circulated by APPA next March.

www.appa.asso.fr



4th Expert Forum on Atmospheric Chemistry (EFAC 4)
VDI (The Association of German Engineers) organizes in cooperation with DECHEMA, GDCh, BMUB, UBA and the European Commission EFAC 4

"Agriculture and livestock farming: Impact on air quality and climate" which will take place on March 7 - 8, 2018 in Frankfurt, Germany.

This year's EFAC focusses on the agricultural sector, which is the largest contributor to global anthropogenic non-CO2 greenhouse gas (GHG) emissions. The future challenge is the implementation of mitigation measures within the agricultural sector. The mitigation measures are necessary to avoid a further increase of the mainly nitrogen-related emissions, while meeting the growing global demand for animal-based food. About a quarter of the global GHG emissions result from agriculture, forestry and other land use. Deforestation, agricultural emissions from soil, nutrient management, livestock, and fossil fuel belong to the major sources. Emissions of CO2 and CH4 mainly result from livestock farming whereas N2O-emissions mainly result from manure storage, agricultural soils and biomass burning. The emissions of N2O are closely linked to the efficiency of nitrogen-utilisation within the major pathways of a livestock system.

In addition, the agricultural sector is a significant contributor to emissions relevant to air quality. About 95% of the NH3 emissions are caused by agricultural activities. NH3, in turn, influences the formation of secondary aerosols (e.g. ammonium nitrate and ammonium sulfate). The cultivation of soil and the farming of animals is also a source of primary (biological) aerosols. Moreover, agricultural activities release NO and organic compounds that result from biochemically induced nitrification processes as well as from the decomposition of undigested proteins in the dung of farm animals and the biogenic emissions of crops, respectively.

The overarching aim of EFAC 4 is the assessment of the environmental impact of agriculture and livestock farming. Finally, it is intended to derive recommendations for mitigation strategies and reduction technologies and to point out future research needs.

<https://www.vdi.de/technik/artikel/atmosphaer-enchemie-landwirtschaft-und-tierhaltung-einfluesse-auf-luftqualitaet-und-klima>



What is the UN Climate Summit (COP24)?

The UN climate

summits, i.e. so called COP (Conference of the Parties) are global conferences, in the course of which action for climate policy is negotiated. Poland hosted them twice - in 2008, in Poznań and in 2013, in Warsaw.

In December 2018, for the first time, the climate summit will take place in Katowice. In April 2017 the UN technical mission delegates, while visiting the capital of Upper Silesia, appreciated the city's excellent preparation for the event, including its infrastructure, meeting the highest standards.

The candidacy of Katowice received recognition from Deputy Prime Minister, Minister of Finance and Development – Mateusz Morawiecki, as well as the Minister of the Environment, Professor Jan Szyszko, who stated that, 'The whole region of Upper Silesia and Zagłębie is a very important example of what can be achieved through consistent policy of sustainable development and economic transformation'.

This year's summit will include: 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24), 14th Meeting of the Parties to the Kyoto Protocol (CMP 14) and the Conference of Signatories to the Paris Agreement (CMA 1).

About 20 thousand people from 190 countries will take part in the event, including politicians, representatives of non-governmental organizations, scientific community and business sector.

<http://cop24.katowice.eu/>

Calendar

11th International Conference on Air Quality – Science and Application

Air Quality 2018

12 - 16 March 2018; Barcelona, Spain

<http://www.airqualityconference.org/>

FAPPS (Finnish Air Pollution Prevention Society)

National meeting on air pollutant and GHG measurements;

10 - 11 April 2018; Tampere, Finland

<https://isy.fi>

Aerosols 2018 - 5th Workplace & Indoor Aerosols Conference

18 - 20 April 2018; university of Cassino, Italy

<https://aerosol-soc.com/events/aerosols-2018-5th-workplace-indoor-aerosols-conference/>

CLRTAP Working Group on Strategies and Review

22 - 25 May 2018; Geneva, Switzerland

www.unece.org/env/lrtap/welcome.html

Air Pollution 2018

26th International Conference on Modelling, Monitoring and Management of Air Pollution

19 - 21 June 2018; Naples, Italy

<http://www.wessex.ac.uk/conferences/2018/air-pollution-2018>

FAPPS (Finnish Air Pollution Prevention Society)

Air Protection Days,

21 - 22 August 2018; Lappeenranta, Finland

<https://isy.fi>

Annual Congress of the Italian Thermotechnical Association (ATI)

12 - 14 September 2018; Pisa, Italy

<https://www.axeacongress.com/ati2018>

60th anniversary of the French Clean Air Association-APPA

29 - 30 November 2018; Lille, France

www.appa.asso.fr

24th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP24)

3 - 14 December 2018; Katowice, Poland

<http://cop24.gov.pl/>

Annual National EPUK Conference on

Theme of this year is: Delivering Environmental Protection in 2019 and Beyond.
15th of November; Aston University Conference Centre (Birmingham), UK
<http://www.environmental-protection.org.uk/events/epuk-events/>

8th International Symposium on Non-CO₂ Greenhouse Gases (NCGG)

The conference aims at bridging the gap between science and applications within the policy and decision making arenas.
12 - 14 June 2019; Amsterdam, Netherlands
www.ncgg.info

18th IUAPPA World Clean Air Congress

23 - 27 September 2019; Istanbul, Turkey
www.wcac2019.org

EFCA

President	Andrzej Jagusiewicz (PIGE, Poland)
Vice Presidents	Vladimira Vadjic (CAPP, Croatia) John Murlis (EPUK, UK)
Past presidents	Thomas Reichert (GUS, Germany) Giuseppe Fumarola (CSIA, Italy)
Administrative Officer	Sabine Aref (GUS, Germany)

Newsletter

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