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**Black Carbon**

In the first months of this year, new European policy initiatives or agreements with respect to clean air have seemed to be scarce. That does not mean, however, that there has not been activity behind the scenes.

The Executive Body of the CLRTAP has decided to hold an additional meeting in the first week of May to approve the revised Gothenburg Protocol. This suggests that final negotiations are running on the national emissions ceilings levels.. Interestingly, in the new Protocol the relationship between air pollution and climate change objectives is being addressed. The Protocol asks Parties to monitor Black Carbon and report on it, although on a voluntary basis. The Convention's Working Group on Effects had earlier formed a Task Force on Health, which, together with WHO Europe, considered Black Carbon from a health perspective. Its report, which is expected to appear any day now, contains a recommendation that Black Carbon Particles may be useful as an additional indicator in local situations with enhanced exposure of the population to combustion PM.

The European Commission is working on a revision of its Air Quality Directive as well as its National Emissions Ceilings Directive, for which proposals are due at the end of this year. The Commission is, therefore, in a position to take the additional step and develop an integrated policy for Black Carbon, focusing on fractions and sources that have the strongest causal relation with effects. Such a policy will serve Clean Air as well as Climate Action objectives and could increase the cost-effectiveness of environmental policy markedly. Moreover, the gradual implementation of the Euro5/6 and EUROV/VI regulation for vehicles exhaust gases is likely to make this viable and suitable for implementation at all scales.

EFCA was happy to facilitate the discussion on some aspects of such a policy in its Forum pages recently. The present Newsletter provides more information on the topic of Black Carbon.

In this issue there is a focus on the presidency of EFCA. In November last year Jean-Marie Rambaud withdrew from the Presidency because of ill health and he died on the 6<sup>th</sup> of December in Paris, much mourned by his family, colleagues and friends. This week EFCA Members elected a new president, Dr Thomas Reichert.

# Developments in EU policy

## Improving the EIA Directive

The EIA Directive dates from 1985 and was revised three times since. The changes which were made in these revisions have been published in separate regulation documents in 1997, 2003 and 2009. Its correct implementation, therefore, required considerable expertise. In 2010 the Commission started a review process of the Environmental Impact Assessment Directive. As a first result of this review process the Commission has now produced a codified version by including all earlier changes in a new Directive. The text was published on 28 January 2012 as [Directive 2011/92/EU](#) and is in force since 17 February. The EIA Directive review process will be concluded later in 2012, when the Commission will present its proposal for the revision of the codified Directive. Future changes will concentrate on the content of the Directive, rather than its format.

## Vehicle noise

This Newsletter generally focuses on atmospheric emissions of pollutants and greenhouse gases with respect to vehicles. Preferably however, vehicles should not just be clean, energy-efficient and safe, but also silent. The considerable progress in the first three aspects, however, has not been matched with respect to noise emissions. While an integrated approach of vehicle technology could have made a difference, noise policy for traffic has been an isolated and rather inactive area: noise emission limits did not change since 1996.

In December last year the Commission announced a regulation which could reduce noise emissions by some 25% when compared with present emissions from new vehicles. The regulation will apply to cars, vans, buses, coaches, and to light and heavy trucks and reduction is to be reached in two steps, to become in force resp. 2 and 5 years after publication of the approved regulation by EP and Member States.

The regulation will include a new test method which will ensure that the sound emissions of a vehicle under street driving conditions will not differ significantly from what can be expected from its type approval test result.

The regulation will also tackle possible road unsafeness caused by electric vehicles because of their silent engines by defining requirements for so-called “Approaching Vehicles Audible Systems”. Fitting such devices on electric vehicles would remain an option for the manufacturer.

More information: [Proposal](#)

## Energy Roadmap 2050

In December 2011 the Commission also published the Energy Roadmap 2050. It is the last document in a series of Roadmaps, such as the one on Resource efficiency, published last September. The Energy Roadmap provides a detailed analysis of the necessary changes in Europe’s energy structure to achieve an over 80% reduction of fossil fuels use in 2050. It is meant as a framework for the necessary policy measures to be taken and to secure that the investments will be made for a low-carbon energy structure, in particular in the period until 2030.

More information: [Energy Roadmap 2050](#)

## The outcome of Durban

In December last year Durban hosted the 17<sup>th</sup> Conference of the Parties to the UNFCCC. Expectations were low because technical negotiations during 2011 had not resulted in much progress on the most crucial issues. The European Commission, however, had prepared an ambitious set of proposals with next steps for COP17. That a major part of these has been agreed upon may seem a miracle; this was, however, what happened! The big surprise was that, apart from the EU and the Alliance of Small Island States (AOSIS), also African countries declared themselves in favor of legally binding agreements on reductions of CO<sub>2</sub>-emissions and supported the roadmap proposed by the EU; it broke the resistance of the major industrial countries, among which China and the United States.

The Durban Platform for Enhanced Action is a process towards a new Protocol, another legal instrument or agreed outcome with legal force that will be applicable to all Parties to the UN Climate Convention. The new instrument is to be adopted in 2015 and be implemented from 2020. To bridge the time until then

a second commitment period of the Kyoto Protocol will run from 1 January 2013. Quantified targets for emission reductions and additional ruling are to be decided at the end of this year. In addition, a workplan has been launched to identify options for closing the 'ambition gap' between current emission reduction pledges for 2020 and the goal of keeping global warming below 2°C.

The agreements also make the Green Climate Fund (GCF) operational. The GCF is expected to be one of the major distribution channels for the US\$ 100 billion which developed countries have pledged to mobilise annually for developing nations by 2020. A new Technology Mechanism and the ruling for the Adaptation Committee were also agreed. Finally, a new market-based mechanism was established aiming to enhance the cost-effectiveness of actions to reduce emissions.

More information: <http://unfccc.int/>

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## Market guidance for green technologies

In December last year the Commission announced a new instrument to assist companies that are developing innovative environmental technologies. An Environmental Technology Verification (ETV) pilot programme has been launched which is to provide independent verification of the performance of new environmental technologies. Manufacturers may so prove the reliability of their performance claims and first purchasers will be able to check whether a technology meets its needs. The terrain which ETV will address includes Energy technologies; others are Water treatment and monitoring and Materials, waste and resources.

A first step will be the set-up of Verification Bodies. Organisations which consider to offer such service have to contact their national accreditation agency.

More information: [ETV webpage on Europa](#)

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## Convention on Long-range Transboundary Air Pollution

### Revision Gothenburg Protocol

In its Annual meeting in December last year the Executive Body (EB) of the Convention on Long-range Transboundary Air Pollution discussed the revision of the Gothenburg Protocol. It was concluded that the progress made during 2011 was such that completion of the negotiations would require a few months only. The EB then decided on an additional meeting in the first week of May this year for finalisation and adoption.

In the new Protocol PM<sub>2.5</sub> will be added as a fifth component, next to SO<sub>2</sub>, NO<sub>x</sub>, VOC and NH<sub>3</sub>. For all five pollutants new national emission ceilings will be established which will be applicable from

2020. Also Black Carbon is proposed to figure in the new Protocol because of its contribution to global warming. Parties will be asked to inventory their emissions and encouraged to take measures, though on a voluntary basis. Most national ceiling levels still were to be established; the US, Switzerland and the EU as a whole had indicated what levels would be acceptable. The revised Protocol is not expected to result in a major atmospheric clean-up. The modest ambition level, however, may encourage Eastern-European countries to take their share in achieving essential clean air objectives across Europe.

More information:

<http://www.unece.org/welcome.html>

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## In memoriam Jean-Marie Rambaud



On 11 December, EFCA's president, Jean-Marie Rambaud, died in Paris at the age of 64. Three weeks before he had informed his colleagues that he was forced to step down from his offices, including the presidency of EFCA.

Jean-Marie became involved in EFCA in 2001 when he was appointed as Executive Director of the French association APPA and was its delegate since 2005. In 2006 the Assembly elected him as vice-president of EFCA and in 2009 he was elected as EFCA's president.

His frame of reference with respect to atmospheric pollution ranged from the local scale, including indoor air, as the important elements when considering public health, to the global scale. He was one of the fathers of EFCA's intensive involvement with particulate matter. In 2006 he organised the symposium **"Air Pollution and Environmental Health, from Science to Action: the challenge of Particulate Matter"**. The topic has since been continued in a successful series of symposia on Ultrafine Particles by our German colleagues.

Jean-Marie had a good understanding of the connections between the different scales. He made this visible by the development of the integrative approach between air pollution and climate change policies: looking for the co-benefits and avoiding the trade-offs. It was a cooperation with IUAPPA of which he was treasurer and one of the leading Board Members.

In 2008 he organised, at the premises of the European Parliament in Strasburg, a symposium

**"How to fight Air Pollution and Climate Change Effectively together in Europe"**. In 2009 he represented EFCA at a workshop at the invitation of the Swedish chairmanship of the EU that year on **"Intermediate policies"** where he recommended to consider the consistency of present Directives of the EU with respect to its climate change policy. In 2010 this position was sent, in an elaborate form, as an EFCA Policy Initiative to the European Commission. Early that year he had also contributed to a workshop in Hangzhou, China at the invitation of the Chinese Environment Ministry to share European experiences in environmental management and to recommend the integrated approach of problems. Later that year he chaired a session at IUAPPA's World Clean Air Congress in Vancouver, Canada, meant to exchange practical approaches towards co-benefits between air pollution and climate change policies.

In 2011 he took up the challenge to organize a conference which addressed the three recommendations of IUAPPA's "Vancouver Declaration" for which he had coined the motto: "One atmosphere" and which included the interactions between air pollution and biodiversity, and, again, climate change and air pollution and explored options for international cooperation at the global institutional level. **"One atmosphere – making the connections"**, conducted last September in Paris, may be considered as the crown of his several contributions to EFCA and IUAPPA.

For EFCA he was an active, but also a wise president. He approached others with a positive attitude, listened to and accepted ideas and had the capacity to reduce controversies and so solve them. He created a friendly atmosphere around him and was respected because he respected others. He was a man who made a difference. EFCA lost a leader and many within EFCA and elsewhere will remember him in respect.

## Thomas Reichert new EFCA-president

This week the Members of EFCA unanimously elected Dr.-Ing. Thomas Reichert as their new president. Thomas is the delegate of EFCA's German Member GUS. He was EFCA's vice-president since 2007 and stood at the start of the successful series of symposia on Ultrafine particles which he organised in cooperation with EFCA.

Thomas holds a degree in physics from the Karlsruhe Institute of Technology. For his PhD he defended a thesis on energy efficient high frequency krypton arc lamps. Since 1990 he is employed by the Fraunhofer ICT where environmental testing became his first field of interest. He has since been involved in several (European) projects on the life cycle of plastics: energy-efficient processing, from eco-design to recycling. He joined GUS, the German Society for Environmental Testing; since 2006 he serves GUS as its Executive Director.

His work brought him in contact with the VDI Commission on Air Pollution Prevention (KRdL), EFCA's oldest German Member, which he serves as a member of their Technical Board on Air Quality and by co-chairing a Joint Working Group on air pollution effects on materials.



Thomas is also active within the Confederation of European Environmental Engineering Societies (CEEES) of which GUS is a Member as well. Since 1993 he chairs one of its Working Groups and from 2003 he is the chairman of the biannual European Weathering Symposium EWS on polymers.

Thomas Reichert (1960) is married to Marion since 1989 with whom he has a son and a daughter. He is in the local community council and manager of the handball department (22 teams) of his sport club.

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## Black Carbon

### Discussion on the EFCA Forum

Improving health protection against particulate matter exposure is still a top priority: considered as a major risk worldwide as well as in Europe, not completely understood yet and hence possibly not being regulated cost-effectively. Recent epidemiological evidence pointed to the PM

fraction of Black Carbon Particles (BCP) as an additional metric for health protection: it has the higher correlation with health endpoints, mortality in particular, when compared with PM<sub>2.5</sub>. BCP has, therefore, been proposed as an additional metric next to PM<sub>2.5</sub>; as a more source-specific pollutant than the mass-based PM-fractions policies to reduce its emissions can be better targeted and their effectiveness is less uncertain than that of policies that aim at reducing PM-emissions.

The interest in BCP matches well with the present focus on ultrafine particles (and nanoparticles) which is, e.g., apparent from EFCA's series of UFP-symposia. At UFP-3 in May 2011 several presentations addressed the topic during a session on Metrics of PM. Details are available in the proceedings of UFP-3 (KIT and EFCA, 2011) and summarised in the Conference report.

Building on the information presented EFCA organised a discussion on specific aspects of the BCP-proposal at the Forum pages of its website in the period December 2011 to February 2012 under the title "Possible regulation of Black Carbon Particles". The discussion primarily addressed the scientific database and the possible implementation of the proposal.

### **General conclusions**

Respondents agreed that any regulation of a new metric should not wait until all uncertainties have been removed.

They also agreed that new regulation should address traffic. This implies that the metric which best correlates with traffic density is to be preferred.

### **BCP or Particle Numbers (PN)?**

One of the uncertainties raised was whether BCP is the only option for an additional metric: if ultrafine black carbon particles are causal for health effects their numbers might be a better metric. PN are not source-specific like BCP. The main problem for considering them on the short term as a candidate for possible regulation, however, appeared to be that a database which could support a policy proposal hardly exists. Respondents in the discussion pointed out that

there are no systematic monitoring data of PN, that emission factors from traffic are not well defined to size fraction and that PN do not correlate as well with traffic as BCP does. Also, epidemiological data are scarce or, for long-term effects, still absent. This rules out that on a medium term (four to five years) a serious proposal could be available and leaves BCP as a short-term relevant option in support of a more cost-effective health protection policy.

The outcome of the discussion does not imply that the approach to consider PN for regulation has been ruled out, though. It is important to note that BCP and NP do not necessarily influence health in the same way. Several gaps in knowledge were identified and will have to be filled in firstly, before an assessment can be made. PN, however, is still to be considered as a mid-term option.

### **BCP and Organic Carbon (OC)**

Black carbon particles do not consist of pure elemental carbon (EC). They are carrier of organic carbon (OC) which are formed in the same combustion processes which produce the EC and a considerable fraction of that occurs in the atmosphere adsorbed to EC. OC from combustion processes consists of toxic compounds, such as polycyclic aromatics. The implication is that BCP is a relevant indicator for airborne toxicity.

Recommendations that were suggested in the discussion are:

- Mandatory monitoring of BCP at sites with exceedances of the limit value for PM<sub>10</sub>
- Defining reduction obligations for BCP during a given period of years

## **CLRTAP-WHO Joint Task Force on Health Effects**

In the period since May 2011, when the BCP-proposal was discussed as a new Metric at UFP-3, a Joint Task Force on Health Aspects of Air Pollution (JTF) also discussed and assessed new scientific results, including PM and the proposal for BC (BCP) as an additional indicator. The Task Force resorted under the Working Group of

Effects of the Convention on Long-range Transboundary Air Pollution of UN-ECE and was facilitated by WHO Europe and chaired by Michal Krzyzanovski.

The report of the JTF is about to appear; its conclusions were made available to EFCA. The JTF acknowledged the substantial number of studies which support the view that BCP has stronger correlations with health effects when compared to PM<sub>2.5</sub>. It held the view that BCP could be useful as an additional indicator for the

evaluation of local actions aimed at the reduction of population exposure to combustion PM (e.g. from local traffic).

The reservation to make it a general recommendation is caused by the still limited number of long-term effect studies for BC. Data from such studies are the basis to represent the effects in terms of lost lifetime. In the two relevant

cohort studies which are presently known BC also shows a stronger correlation. However, it fails to do so when a test is made on their relative rate when compared to that of other pollutants in a so-called multi-pollutant model which considers the contributions of several pollutants to the effect, In that procedure the effect becomes statistically insignificant.

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## New LIFE Programme

The European Commission is preparing for a new programme for the Environment and Climate Action, LIFE for the period 2014-2020. The new programme will build on the success of the present LIFE+ programme with some changes in its priorities and mechanisms. With a budget of €3.2 billion its impact will improve

while procedures will become simpler and more flexible. In particular, the budget allocation for climate action projects will be tripled.

A public consultation on LIFE was launched in March.

More information: [Proposal](#)

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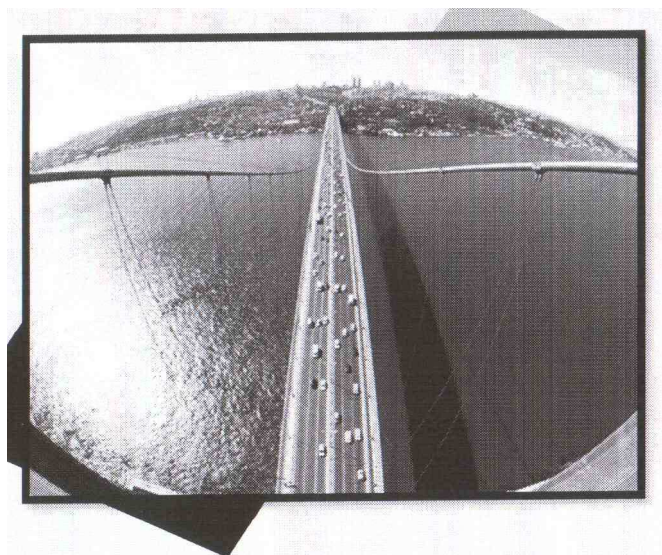
## News on EFCA and its members

### EFCA presidency

In the last week of March 2012 EFCA Members elected Thomas Reichert as their president. Thomas will effectively take over the presidency on 2 April 2012 from Giuseppe Fumarola who served as president ad interim since the middle of

November last year when Jean-Marie Rambaud had to step down. On page 5 we introduce him to the readers. In the next issue of the Newsletter Thomas will share his ideas for EFCA's future with readers of the Newsletter.

# Air Quality Management at Urban, Regional and Global Scales (AQM 2012)



From 10-13 September 2012 our Turkish colleagues will conduct their 4<sup>th</sup> International Symposium on AIR QUALITY MANAGEMENT at URBAN, REGIONAL and GLOBAL SCALES.

AQM2012 which is being sponsored by EFCA and IUAPPA is to take place in Istanbul and is jointly organised by Istanbul Technical University (ITU) and the Turkish National Committee for Air Pollution Research (TUNCAP). Chairman is Selahattin Incecik from ITU.

## Call for Papers

One page abstracts are being accepted **until 2 April** on the following topics:

- Air Pollution Modelling
- Air Quality Management
- Health Effects
- Aerosols
- Impacts on Forest and Vegetation
- Risk Management
- Indoor Air Quality
- Air Pollution Impacts on Climate Change
- Air Pollution and Energy
- Emission Studies

Authors will receive notification of acceptance by 1 May 2012; submission of full papers is due by 15 July 2012. The organizers will facilitate publication of selected papers through a peer-review process in some journals, such as

Atmospheric Environment, The Science of the Total Environment and others.

## Registration

Participants are advised that there is an early bird registration fee until 15 June. For all details see the website, <http://aqm2012.itu.edu.tr>. The organisation can be contacted at [aqm2012@itu.edu.tr](mailto:aqm2012@itu.edu.tr).

## Special EFCA-session on Transboundary Transport of Air Pollution in the Mediterranean Area.

EFCA is presently organising a special session on the above subject. The programme still allows for one or two additional papers. Interested authors are requested to send a one-page abstract to Prof. Giuseppe Fumarola ([gfumarola@tiscali.it](mailto:gfumarola@tiscali.it)).



## Calendar

CfP = Deadline Call for Papers

Valuing ecosystems: Policy, Economy and Management Interactions

3-4 April 2012, Edinburgh, Scotland

([www.sac.ac.uk/sacsepaconf](http://www.sac.ac.uk/sacsepaconf))

32<sup>nd</sup> NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application

7-11 May 2012, Utrecht, Netherlands ([www.int-tech-mtng.org](http://www.int-tech-mtng.org))

Fourth Carbon Capture and Storage Conference

9-10 May 2012, Köln, Germany

(<http://v11.vuturvevx.com/exchange-sites/Whitmore%20Group/59/conferences/eu-ecc4.asp>)

44<sup>th</sup> Annual Air Pollution Workshop and Joint Meeting

18-27 May 2012, Kaunas, Lithuania

(<http://www.apworkshop.org>)

8<sup>th</sup> International Conference on Renewable Resources & Biorefineries (RRB-8)

4-6 June 2012, Toulouse, France

([www.rrbconference.com](http://www.rrbconference.com))

2<sup>nd</sup> Urban Environmental Pollution conference - Creating Healthy, Liveable Cities.

17-20 June 2012, Amsterdam, Netherlands.

([www.uepconference.com](http://www.uepconference.com)) CfP: 16-01-12

3<sup>d</sup> International Congress FINE!Dust-free

20-21 June 2012, Klagenfurt on Lake Wörthersee,

Austria ([www.feinstaubfrei.at/en](http://www.feinstaubfrei.at/en))

16<sup>th</sup> ETH-Conference on Combustion Generated Nanoparticles

24-27 June 2012, Zürich, Switzerland

([www.nanoparticles.ethz.ch](http://www.nanoparticles.ethz.ch)) CfP: 14-04-12

IIASA 40th Anniversary Conference

27-29 June 2012, Vienna/Laxenburg, Austria

([www.iiasa.ac.at/conference2012](http://www.iiasa.ac.at/conference2012))

2<sup>nd</sup> International Conference 100% Renewable Energy – Conference + Exhibition

28-30 June 2012, Istanbul, Turkey

([www.irenec2012.com](http://www.irenec2012.com))

Global Sustainable Finance Conference 2012

5-6 July 2012, Karlsruhe, Germany

([http://etechgermany.com/GSFC\\_2012.pdf](http://etechgermany.com/GSFC_2012.pdf))

Bioenergy from Forest

27-31 August 2012, Jiväskyla + Jämsä, Finland

(<http://www.bioenergy.finbioenergy.fi>)

Air Quality Management at Urban, Regional and Global scales (AQM2012)

10-13 September 2012, Istanbul, Turkey. International EFCA symposium and IUAPPA Regional Conference, hosted by TUNCAP and ITU

(<http://aqm2012.itu.edu.tr>). CfP: 02-04-12

2<sup>nd</sup> Global Geothermal Energy Summit 2012

19-20 September 2012, Reykjavik, Iceland

(<http://www.wplgroup.com/aci/conferences/eu-egt2.asp>)

16<sup>th</sup> International Conference on Heavy Metals in the Environment

23-27 September 2012, Rome, Italy

(<http://ichmet16.ija.cnr.it>) CfP: 15-04-12

European Electric Vehicle Congress

10-12 October 2012, Brussels, Belgium

([www.eevc.eu](http://www.eevc.eu)) CfP: 01-05-12

19<sup>th</sup> Transport and Air Pollution Conference

26-27 November 2012, Thessaloniki, Greece.

([www.TAPconference.org](http://www.TAPconference.org)) CfP: 30-04-12

16<sup>th</sup> IUAPPA World Clean Air Congress

29 September – 4 October 2013, Cape Town, South Africa, hosted by NACA

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## **EFCA**

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|--------------------------|--|
| <b>President</b>         | Thomas Reichert (GUS e.V., Germany)      |
| <b>Vice-president</b>    | Vladimira Vadjic (CAPP, Croatia)         |
| <b>Past-president</b>    | Giuseppe Fumarola (CSIA, Italy)          |
| <b>Secretary-general</b> | Joop van Ham (VVM-CLAN, The Netherlands) |

## **Newsletter**

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