# **EFCA**



# Newsletter

European Federation of Clean Air and Environmental Protection Associations

#### Number 25 December 2015

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## **Editorial**

It is many years since the business of the climate and clean air community has attracted as much worldwide interest as it did in 2015. In Paris the leaders of the world had to show that they cared for the planet and its present and future inhabitants. They did. Though the conditions for an agreement were better than ever before, the different interests of the Parties in the Climate Treaty could have easily prevented a positive result. Parties had the courage to place the common interest first.

At a time when, in and around Europe, political polarisation increased and violence and military conflicts in the world disturb the lives of millions, the Paris Agreement is an accomplishment which cannot be valued enough.

At the same time we should be aware, however, that many steps lay between agreed intentions and their successful realisation. A most prominent demonstration of what may go wrong was recently given in the automobile sector, where the Volkswagen Company has, for several years, circumvented emissions regulations for diesel cars by using software to defraud emission tests. The European Union showed leadership in Paris as it has been doing at preceding Conferences of the Climate Treaty. Ironically, it was also Europe's industry that brought forth 'dieselgate': cars which were less fuel-efficient and more polluting than they seemed to be.

After all that has been written elsewhere the present Newsletter provides a concise account only of the main elements of the Paris Agreement. The current actions in Brussels to ensure all new diesel cars perform in compliance with existing regulation are reported and placed in perspective by including a recent Open Letter from a group of scientists titled "The Truth about Diesel Cars".

## **UNFCCC – Ambitious Climate Agreement in Paris**

On 12 December an historic agreement to combat climate change was agreed by 195 nation in Paris. The earlier attempt in 2009 in Copenhagen agreed to keep temperature rise to maximally 2 °C; it failed, however, to agree on global policies and mechanisms and the national actions which could achieve this. At COP21 188 nations provided their climate action plan to curb CO<sub>2</sub>-emissions and agreed on the conditions for actual implementation at UN level. Their feel of urgency became apparent from their agreement to drive efforts to limit temperature rise even further to 1.5 °C above pre-industrial levels.

#### **Main elements**

The Paris agreement covers the essential steps for an agreement at this scale which can be effective:

- Mitigation emissions reductions should be fast enough to achieve temperature goal
- A transparency system global stock-take to account for climate action
- Adaptation strengthening ability of countries to deal with climate impact
- Loss and damage strengthening ability to recover from climate impact
- Support including finance for nations to build clean, resilient futures

The ambition of the Paris agreement is further demonstrated by the requirement for countries to update their climate plans (national determined contributions, NDCs) every five years. As well as setting a long-term direction countries will peak their emissions as soon as possible.

#### **Many fathers**

The agreement has many fathers.

At the scientific level the work of the IPCC provided the evidence that further postponing major actions to curb emissions of greenhouse gases would increase risks which are too high; it also showed the available options for averting the most serious risks.

The IPCC-work was complemented at the technical level by the private sector which showed the availability of effective solutions and their increasing application at a Climate Summit last year chaired by UN Secretary-General *Ban Kimoon*.

At the political level the determined bv the pressure European Union during a long time, and its coalition with the 79 African, Caribbean Pacific countries is still to be considered as the fundament for COP21; the agreement



between the United States and China this year, however, made it strong enough for the major steps that were taken in Paris.

At the United Nations level the process towards an agreement of which the details could be acceptable for the Parties as well as effective would have failed if not well prepared. The hard work was started at COP17 in Durban, coordinated by the UNFCCC-secretariat and its Executive Director, *Christiana Figueres*. The French chair of COP21, *Laurent Fabius*, successfully completed to force decisions on remaining controversial aspects.

It is further of importance to mention that countries noted in Paris the enormous potential for actions by cities and regions, as well as by businesses and other stakeholders and the civil society and the commitment of investors to make things happen.

#### **Signing the Paris Agreement**

The Paris Agreement will be deposited at the UN in New York. On 22 April 2016 it will be opened for signature for one year.

The Agreement will enter into force after 55 countries that account for at least 55% of global emissions have deposited their instruments of ratification.

More information:

http://newsroom.unfccc.int/unfcccnewsroom/finale-cop21/

## **Developments in EU policy**

#### **Diesel emissions**

By the end of the summer the world was shocked by the revelation that car manufacturer Volkswagen used a "defeat device" software, in order to comply with emission standards in the United States and Europe. Compliance to emissions standards is tested in a laboratory test cycle which does not reflect emissions of vehicles in normal driving conditions. The serious discrepancies which had been found between onthe-road driving and test conditions induced the Commission in 2013 to develop procedures for the emission testing of vehicles in real driving for which regulation is awaited since. In response the Commission published a press release on 24 September in which it called upon Member States to address the matter through the national Type Approval Authorities and report back. Responsible Commissioner, Elżbieta Bieńkowska, made clear that the Commission has zero tolerance on fraud and requires rigorous compliance with EU rules. It was also announced that a new Real Driving Emissions (RDE) test procedure will be phased in from early 2016. It was added, however, that there is not yet an agreement on a treatment in case of major divergence between the results of the laboratory test and tests under real driving conditions.

Press Release: <a href="http://europa.eu/rapid/press-release">http://europa.eu/rapid/press-release</a> STATEMENT-15-5713 en.htm

More information (FAQ):

http://europa.eu/rapid/press-release MEMO-15-5705 en.htm

## **Real Driving Emissions test**

On 28 October the Technical Committee of Motor Vehicles (TCMV) voted in favour of the second package of implementing measures to introduce real driving emissions tests for air pollutants by diesel cars. The first package, adopted in May which detailed the new RDE test procedure will come into force early in 2016. The second package is addressing the gap between the

laboratory test and the RDE test. According to Commission data, currently produced Euro 6 vehicles exceed the  $NO_x$  limit under real driving conditions by up to 400 %. Reports on this discrepancy were already circulating as early as 2011. In spite of attempts by its Environment Commissioner, *Janus Potocnik*, the former Commission preferred not to address the matter.

In the second package a phased reduction of the exceedance to 50 % is required in January 2020 for new models (and in January 2021 for all new vehicle). In the first step the exceedance has to be reduced to 210% from September 2017 for new models (new vehicles from September 2019). The second package requires a decision by the European Parliament and the Council to enter into force. Exceedances will then have implications for the conformity certificates from national type-approval Authorities in Member States.

More information: <a href="http://europa.eu/rapid/press-release IP-15-5945">http://europa.eu/rapid/press-release IP-15-5945</a> en.htm

### **RDE and European Parliament**

On 14 December the Environment Committee of the European Parliament (EP) voted in favour of a motion for the plenary meeting asking to oppose the adoption of the draft-regulation. Its argument for opposing is that the draft-regulation is in fact a derogation of the existing Regulation on Euro 6 vehicles. The EP is expected to vote on the regulation in its plenary session in January.

Observers think it quite possible that the EP will follow the Environment Committee in the turmoil since the discovery of the fraudulent actions in the car industry. The Council did not take a position so far.

More information:

http://www.emeeting.europarl.europa.eu/commi ttees/agenda/201512/ENVI/ENVI%282015%2912 14 1P/sitt-1701653

#### **Comment**

The second package of the Real Driving Emissions test is certain to become also a test for the quality of the policy process in the European Union. The indignation in the European Parliament at the behaviour of Volkswagen may indeed be sufficient for opposing the outcome of the comitology process in the TCMV. In the Environment Committee 40 votes were opposing, 9 against opposing while 23 voters abstained. The voting in the EP will be known rather soon.

Opposing implies that the automobile industry may not be granted the additional time proposed in the TCMV draft-proposal. In any civil relationship those violating the law risk to be sentenced; they cannot expect any privilege. The Euro6 Regulation forces Member States to deny new models that do not pass the test to their markets.

The Council will have to agree, however. It can be rather certain that the US authorities will not have any mercy with an industry like Volkswagen which serves a small part of their market. The question will be whether the European scale of 'dieselgate' makes a difference. Will some industries be 'too big to fail'?

### **Air Quality Directive**

In its meeting of 1 December the Environment Committee of the EP had an exchange with the Commission on a number of questions on behalf of the EP and the Council with respect to the Air Quality Directive (2008/50/EC). It is to be noted that the Commission abandoned its original intention for a revision of the Directive as part of its Clean Air Policy Package, two years ago; the persisting problems of Member States to comply to its requirements would not make a tighter Directive productive.

The questions, therefore, included infringement procedures against Member States on non-compliance situations and addressed existing adverse exposure and health issues; on the latter the Commission is being asked to explain their intentions to have Member States take action. In addition, however, the Committee had questions

on the need for Revision of current legislation on health protection, also referring to NO<sub>2</sub>-limits and diesel cars.

More information:

http://www.emeeting.europarl.europa.eu/committees/agenda/201512/ENVI/ENVI%282015%291201 1/sitt-1448558

#### Life Programme funding

On 20 November the Commission committed a total funding of €160.6 million under the Life programme for the Environment. A total of 96 projects in 21 countries will benefit from the approval. The projects are divided over the three programme areas, Environment and Resource Management (51), Nature and Biodiversity (39)and Government and Information (6). More than €100 million is available from additional sources. The projects have been selected from a total of 1117 applications; a description of each is available at the website of the Commission. http://europa.eu/rapid/press-release IP-15-6081 en.htm

#### **NEC Directive**

On 28 October the European Parliament adopted a total of 118 amendments to the proposal for the revised National Emissions Ceilings Directive. The procedure towards an agreement on this key legal instrument will enter its third year now and has seen quite opposing views from the side of the EP Environment Committee and MEPs having ties with interest groups.

In the revised NEC Directive national ceilings are to be agreed for emissions of sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds, ammonia, PM<sub>2.5</sub> and methane. They comprise ceiling levels for the years 2020, 2025 and 2030 in each Member State and the EU as a whole. The actual reductions for these emissions (with the exception of methane) had already been agreed in the revised Gothenburg Protocol in 2012.

Just before the plenary vote Environment Commissioner Karmenu Vella, had dissuaded MEPs to adopt the stricter emission targets which the EP's Environment Committee preferred as he expected that a higher ambition would make an agreement with the Council unlikely. A majority of the Parliament indeed followed the cautious line.

A lobby from the agricultural industry to remove targets for ammonia and methane was unsuccessful for the first; the requirements on methane were considerably weakened by excluding enteric emissions from ruminants. In reactions, spokespersons from the European Environment Bureau, however, expressed their disappointment on the outcome of the vote.

The adopted amendments are now to be considered by the national governments which have to agree in the Council on a common position. Council, Parliament and Commission will then start negotiations for a final compromise, expected in the first half of 2016.

The adopted amendments are available at: <a href="http://www.europarl.europa.eu/sides/getDoc.do">http://www.europarl.europa.eu/sides/getDoc.do</a> ?pubRef=-//EP//TEXT+TA+P8-T...

#### **EEA reports**

#### Air quality in Europe – 2015 report

This report presents an updated overview and analysis of air quality in Europe in 2103 and provides information on trends since 2004.

The most problematic pollutants affecting human health are particulate matter (PM), ground-level ozone ( $O_3$ ) and nitrogen dioxide ( $NO_2$ ). Health impact estimates associated with long-term exposure to PM<sub>2.5</sub> show that this pollutant was responsible for 432 000 premature deaths in Europe in 2012, a level similar to that estimated in previous years. The estimated impacts of  $NO_2$  and  $O_3$  exposure were around 75 000 and 17 000 premature deaths respectively.

EEA Report No 5/2015 – published 30 Nov 2015 http://www.eea.europa.eu/publications/airguality-in-europe-2015/at download/file

Monitoring CO<sub>2</sub> emissions from passenger cars and vans in 2014

Vehicles sold in the European Union in 2014 were, on average, 2.5% more efficient than those sold the previous year, according to a new report from the European Environment Agency (EEA). The report, which updates the preliminary data published earlier this year, tracks progress towards CO<sub>2</sub> emission targets for new passenger cars and vans.

Technical report No 16/2015 - published 26 November 2015

Monitoring CO<sub>2</sub> emissions from passenger cars and vans in 2014,

## Resource-efficient cities: vital steps towards urban sustainability in Europe

Cities can be designed and changed in ways to offer opportunities to reduce resource needs and environmental impacts. Three new reports by the European Environment Agency (EEA) take a closer look at what a resource-efficient city is and what cities can do.

Technical report No 23/2015, 'What is a resource-efficient city?'

Technical report No 24/2015,

'Resource-efficient cities: good practices'

Technical report No 25/2015,

'Enabling resource-efficient cities'

Published 10 Dec 2015

#### Fluorinated greenhouse gases 2014

This report shows the production, use, import, export and destruction of these substances in the European Union in 2014. F-gas emissions in the EU have grown by almost 60 % since 1990, and currently make up approximately 2.5 % of EU-28 overall greenhouse gas emissions (measured in  $^{\prime}\text{CO}_2\text{-equivalent}^{\prime}$  tonnes (CO<sub>2</sub>e) to be able to assess their effect on the climate).

New regulation, in place since 2015, aims to reduce emissions in 2030 by two thirds of those in 2010. While production of fluorinated gases in the EU is gradually declining, imports increased in 2014 by 90%, probably in anticipation of the new regulation.

Technical report No 22/2015 - published 9 Dec 2015 'Fluorinated greenhouse gases 2014'

#### **Information on Diesel Cars**

On 11 December a group of 24 leading air quality researchers and practitioners published an open letter to the European public and to policymakers. The publication was facilitated by the Institute of Air Quality Management

(IAQM) in the UK.

It was considered that the very informative letter would be of interest to members of EFCA associations and deserves a wide distribution; an offer to include it in the EFCA Newsletter was welcomed by IAQM.

The letter is authored by Dr Claire Holman, University of Birmingham, UK and Prof. Eckard Helmers, Trier University of Applied Sciences, Germany and follows below; for references to the text and the list of those who signed the letter, please consult the following link:

http://iaqm.co.uk/text/letters/Truth%20about%20Diesel%20Cars 11Dec15.pdf.



#### The Truth about Diesel Cars

11 December, 2015

#### Open letter to the European public and policymakers

We are a group of concerned air quality practitioners and researchers who believe that the public should be made aware of the true nature of the pollution from diesel cars.

Air pollution remains the principal environmental factor linked to preventable illness and premature mortality in the EU and still has significant adverse effects on much of Europe's natural environment <sup>i</sup>, yet for many years air quality has been regarded as a solved problem <sup>ii</sup>. Almost half a million premature deaths in 2011 were due to poor air quality in Europe <sup>iii</sup>. The EU limit values for nitrogen dioxide and fine airborne particles remain difficult to achieve in many cities, and the promotion of diesel cars has made achievement of these limits more challenging. Most of the emissions of nitrogen oxides (NOx) and particulate matter (PM) in our towns and cities typically come from diesel vehicles. The EU emission limits for diesel cars are less stringent than those for most petrol cars <sup>iv</sup>.

Diesel vehicles are responsible for most of the emissions of particulate matter and nitrogen oxides from road traffic. Particle filters are now fitted to new diesel cars and can be effective at reducing the emissions of particulate matter. Technologies to reduce nitrogen oxide emissions from these vehicles have, however, been unsuccessful so far under road conditions.

Most European Governments have promoted diesel cars by providing fiscal incentives for cars with lower CO2 emissions  $^{\rm v}$ , but more significantly, by taxing diesel fuel less than petrol. This has led to over 45 million more diesel cars in Europe since the mid 1990s, millions in each of the major European countries. There is evidence that these policies have only marginally, if at all, reduced real world  $CO_2$  emissions  $^{\rm vi}$ , but have exacerbated poor urban air quality. In addition, black carbon  $^{\rm vii}$  emissions from diesel cars without particle filters, and malfunctioning engines, stimulate global warming  $^{\rm viii}$ , and are also responsible for some of the health effects of poor air quality.

So-called "clean diesels" are unlikely to be clean over their lifetime. European legislation requires emissions compliance only for the first 150,000 km, while in the USA it is required for 240,000 km. For diesel cars to have similar emissions to petrol cars requires a complex 5-step chemical process and the engine not to malfunction ix; an unrealistic expectation for all in-use cars. In France, for example, the engines of three quarters of 168 diesel cars randomly chosen from the fleet were found to be malfunctioning with up to four individual problems per car x.

Diesel is cheaper than gasoline in virtually all EU countries, and with the better fuel economy provides an incentive for consumers to purchase diesel cars. However, there is not a simple relationship between the diesel-gasoline price differential and the market share of diesel cars. There are other influences that affect its popularity including the huge economic importance of the EU motor industry in many countries which, since the 1990s, has primarily developed diesel engines aiming to reduce CO<sub>2</sub> emissions xi. The industry in other parts of the world has adopted other approaches. The Japanese motor industry, for example, has instead heavily invested in hybrid technology. In

this way, Japan was able to reduce  $CO_2$ -emissions of newly registered cars much faster and more efficiently than the European Union, although diesel cars have been almost entirely removed from Japanese streets  $x^{ii}$ .

The European motor industry, with the associated trade organisations, and the European oil industry, have recently launched a public campaign to promote diesel cars. This includes a website xiii and an open letter to policymakers in Europe (dated July 8 2015). This material is misleading.

The European car industry has claimed for almost 20 years and again in the open letter that "Diesel cars (have) significantly lower  $CO_2$  emissions per kilometre (and) are <u>essential</u> to manufacturers' effort to reach the EU's …CO2 fleet average targets". This is wrong. The reason why diesel cars tend to have lower  $CO_2$  emissions is that the industry has invested in diesel engines at the expense of petrol engines over the past 20 years. Despite this  $CO_2$  emissions of cars with a downsized, charged petrol engine can be comparable with an equivalent diesel car. For example, a 1.0 I - Ford Focus (petrol fuelled) emits 99 g  $CO_2$ /km, the same car with a small diesel engine (1.5 I) emits 98 g  $CO_2$ /km xiv.

The European oil industry has worked closely with the carmakers to promote diesel. As the demand for fuel oil declined due to the increasing use of gas to heat homes and generate electricity in the 1980s, European oil companies were faced with a surplus. Diesel and fuel oil are similar middle distillate products of refineries and an increase in demand for diesel was an obvious solution to the declining sales of fuel oil xV. The influential oil industry therefore has promoted the dieselisation of the car fleet since the 1990s xVI.

European motor and oil industries describe clean diesel in their open letter as "a new generation of diesel made up of advanced engines, cleaner diesel fuel and effective controls". Ultra-low sulphur diesel is not new, it was introduced a decade ago, and it is well known in the air quality field that diesel emission controls have not been effective. For example, the testing of vehicles in the real world, undertaken for the UK Government in 2011, showed that there had been essentially no improvement in NOx emissions over two decades despite the introduction of increasingly more stringent limit values \*\*\*ii.

Analysis, taken under real world driving conditions by the International Council for Clean Transportation, and published in October 2014, concluded that "modern diesel passenger cars have low on-road emissions of carbon monoxide (CO) and total hydrocarbons (THC), but an unsatisfactory real-world emission profile of nitrogen oxides (NOx)" (PM performance was not included in the study). "The average on-road emission levels of NOx were estimated to be 7 times the certified emission limit for Euro 6 vehicles" viii which is 700 % of the emissions allowed. There were, however, some differences among the performance of the vehicles tested, with a few vehicles performing substantially better than the others suggesting that the technology exists for low NOx diesel cars. So far, measurements on cars in London show that there has been little if any improvement since the early 1990s when the Euro standards were first introduced xix.

The NOx issue has been recognised by regulators and Europe is preparing to implement real world testing for cars. However, its introduction is likely to be delayed because of a lack of agreement on the appropriate real-world emissions test procedure for future Euro 6 cars. Instead of "actively supporting … real-world improvements" the European car industry is presently lobbying to delay these requirements until after 2021<sup>xx</sup>.

In their Open Letter, the European motor and oil industries, state: "Political measures restricting the rollout of the new generation of diesel technology would therefore undermine existing efforts to cut  $CO_2$  emissions. Such measures make no sense from an environmental point of view". In reality, it's the opposite. The environment, climate and health of the people would benefit from stepping away from the diesel car. Those diesel cars already on the streets, however, need to be retrofitted to reduce emissions.

The US Environmental Protection Agency's notice of violation of the Clean Air Act to Volkswagen suggests that the carmaker has deliberately used a defeat device to evade clean air standards. EU legislation also makes it illegal to use such devices xxi. It seems ironic that this notice was issued less than three weeks after the European motor industry launched its diesel promotion.

With the help of weaker standards, diesel cars have been granted pollution privileges by EU law for over 20 years <sup>xxii</sup>. As a result, poor air quality continues to have grave consequences for public health and European policy makers must act to correct this as a matter of urgency.

## **Convention on Long-range Transboundary Air Pollution**

## Gothenburg Protocol – Sweden accepts amendments

In 2012 Parties to the Convention on Long-range Transboundary Air Pollution of the UN-ECE agreed on amendments of its Gothenburg Protocol (1999). The Gothenburg Protocol deals with multiple pollutants and their effects and is also referred to as the multi-pollutant and multi-effect protocol. The agreement implies that Parties include its requirements in their national legislation on a voluntary basis. The amendments will enter into force when two thirds of the Parties to the original Protocol have accepted

them. In November last year Sweden was the first Party which completed its procedure successfully. The European Union which is a Party of the Gothenburg Protocol itself had started its procedure in 2013 when the former Commission sent its Clean Air Policy Package to the European Parliament and the Council. An important requirement in the amended Gothenburg Protocol includes an Annex with reduced national emissions ceilings for all Parties. In the Package a National **Emissions** Ceilings revised Directive would deal with that. At the end of 2015 EP and Council had not succeeded yet to reach a political agreement on it.

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#### **Recent EFCA events**

#### **Air Protection 2015**



From 8-12 September EFCA Member CAPPA conducted its 9<sup>th</sup> Croatian Scientific and Conference with Professional international participation. Apart from its function to facilitate the exchange of scientific research results the Croatians - which joined the EU in 2013 consider the conference as a welcome opportunity to discuss the details the EU legislation, both with implementing respect to technical as well as juridical aspects. The program included a number of review papers on relevant topics and sessions which addressed elements of air quality management like Monitoring, Measuring methods, Emissions, Exposure estimates and Inspection and control.



Like the previous conference a special session, prepared in cooperation with EFCA, was included addressing Particulate matter: internationally, as well as in Croatia a major challenge to control. The session was chaired by EFCA's vice-president *John Murlis*, who explained that it is the least well understood pollutant and by consequence the pollutant for which regulation is still inadequate: It prompted EFCA in 2013 to the statement that protection of public health requires a fraction-byfraction approach which also considers the ultrafine fraction and the chemical composition of particulate matter.

The Croatian organizers concluded their conference with a Round table at which they asked participants to define existing problems in air quality management in Croatia with proposals for addressing these. Participants committed CAPPA to bring the resulting assessment and suggestions to the attention of the Croatian ministry of Environment and Nature Protection.

CAPPA president Gordana Pehnec and colleagues may be proud with this productive event!

An Abstract Book of Air Protection 2015 in Croatian and English is available at CAPPA's website, http://www.huzz.hr/index.htm

# **VDI Expert Forum on Atmospheric Chemistry – Tropospheric Aerosols**

On 25 and 26 November the *VDI Kommission Reinhaltung der Luft* organised its second Expert Forum dedicated to atmospheric chemistry and the formation of tropospheric aerosols. EFCA had



been invited to contribute in the programme and EFCA's president, *Thomas Reichert*, contributed a presentation on the topic of organic aerosols. Other topics were 'New particle formation', 'Surface chemistry on particles' and 'Particle emission inventories'.

The intention of the Expert Forum was to take stock of recent developments in our knowledge of atmospheric processes of particle formation and their behaviour and consider their potential relevance for measurement methodology and its standardisation.

A report on the content of the presentations and their relevance for future needs in support of research and policy development is presently being prepared.

### **News from EFCA and its Members**

#### **Quiet year for EFCA**

2016 is the year of the 17<sup>th</sup> of IUAPPA's tri-annual World Clean Air Congresses. With most EFCA Members participating in IUAPPA there is a silent agreement to limit additional international events within Europe in such years. While the Year of Air of 2013 forced an exception with several EFCA events, 2016 promises to respect this tradition very well: no EFCA events have been planned so far for this year.

# **2016: World Clean Air Congress in Busan, Korea**

In October last year the organizers of the World Congress, the Korean association KOSAE and Clean Air Asia, announced that Korea was ready to welcome participants in Busan for IUAPPA's 17<sup>th</sup> World Clean Air Congress and CAA's 9<sup>th</sup> Better Air Quality Conference. The coalition of the two organisations with IUAPPA has the most qualified stakeholders aboard to globally attract the expertise for an important and successful event with support of the Korean Government.

The theme of the Congress is:

#### "Clean Air for Cities – Perspectives and Solutions"

The joint meeting is held against the background of the premature death of 7 million people annually, a major part of which in Asia. The meeting is announced as a landmark event to explore the scientific, technological and policy advances and innovations — at local, national and international levels — that could solve the global challenges to health and the environment.

The Congress is to be conducted in Busan, South Korea between 29 August and 2 September 2016.

#### **Call for Papers**

The Call for Papers is open now and lists 6 major themes:

- Cities and Megacities
- Linking Air Pollution and Climate
- Delivering Cleaner Air at Urban Scale
- International Action on Air Pollution
- Climate and Air Pollution: SLCP reduction
- Sustainable Transport Solutions for Cities

The deadline for sending abstracts is 29 April which is also the date for early bird registration.

The website for the Congress, <a href="www.wcac2016.org">www.wcac2016.org</a> contains all relevant information and provides a template to be used for submitting abstracts.



Aerial view of Busan, Korea

### **Calendar**

CfP = Deadline Call for Papers

12<sup>th</sup> International Conference Indoor Air Quality 2016 3-4 March 2016, Birmingham, UK. <a href="http://www.icom-cc.org/51/news/?id=353">http://www.icom-cc.org/51/news/?id=353</a>

 $\mathbf{10}^{\mathrm{th}}$  International Conference on Air Quality – Science and Application

14-18 March 2016, Milan, Italy.

http://www.airqualityconference.org/

CEM 2016 International Conference and Exhibition on Emissions Monitoring

18<sup>th</sup>-20<sup>th</sup> May 2016. Lisbon, Portugal. <u>www.cem.uk.com</u>

21<sup>st</sup> International Transport and Air Pollution Conference 24-26 May, Lyon, France. <a href="http://tap2016.sciencesconf.org/">http://tap2016.sciencesconf.org/</a>

20th ETH Conference on Combustion Generated Nanoparticles

13-16 June 2016, Zurich, Switzerland. www.nanoparticles.ethz.ch (CfP 01-04)

14<sup>th</sup> International Conference on Indoor Air Quality and Climate

3-8 July 2016, Ghent, Belgium. http://www.indoorair2016.org/

17<sup>th</sup> IUAPPA World Clean Air Congress and 9<sup>th</sup> Better Air Quality Conference – Clean Air for Cities – Perspectives and Solutions

29 August -2 September 2016, Busan, South Korea. www.wcac2016.org (CfP 29-04)

28<sup>th</sup> Conference of the International Society of Environmental Epidemiology

1-4 September 2016, Rome, Italy. <a href="www.isee2016Roma.org">www.isee2016Roma.org</a> (CfP 28-02; open from 20-01)

6<sup>th</sup> International EFCA symposium on Ultrafine Particles (UFP-6), Brussels, Belgium.
May 2017, <a href="https://www.efca.net">www.efca.net</a>

26<sup>th</sup> Annual ISES Conference – Interdisciplinary Approaches to Health and the Environment 9-13 October 2016, Utrecht, The Netherlands. http://www.isesweb.org/Meetings/mtgs\_cur.htm

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#### **EFCA**

President Thomas Reichert (GUS e.V., Germany)
Vice-president Vladimira Vadjic (CAPPA, Croatia)

Vice-president John Murlis (EPUK, UK)

Past-president Giuseppe Fumarola (CSIA, Italy)

**Secretary-general** Joop van Ham (VVM-CLAN, The Netherlands)

Newsletter

Editor Joop van Ham, VVM-CLAN

#### **Published by**

European Federation of Clean Air and Environmental Protection Associations Burg. Scholtenstraat 1, NL-2645 NL DELFGAUW

> E-mail: info@efca.net Fax: +31-15-261 3186 Website: www.efca.net