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## Editorial

### Coal as a Christmas gift

*by Andrzej Jagusiewicz, president of EFCA*

COP-24 in Katowice (Poland) in 2019 teased its participants with marvellous jewellery, almost all types from ring to necklace, decorated with a sculptured piece of anthracite, the least harmful coal to air pollution if burnt. A very nice souvenir for many participants who bought it, much nicer than the outcome of the Conference. No surprise in the country where 75 % of energy is produced of coal, although the latter is responsible for about 40% of annual CO<sub>2</sub> emissions globally and almost 100 % of smog in many Polish cities and towns.

Two years later, a commitment *to phase out* coal that was expected to happen finally at COP-26 has been replaced instead by the agreement *to phase it down* after strong opposition led by India and China and amid expressions of disappointment by many, including its President Alok Sharma.

In turn, UN Secretary-General Antonio Guterres said, "We are still knocking on the door of climate catastrophe... it is time to go into emergency mode - or our chance of reaching net zero will itself be zero". It's worth reminding ourselves what he said after COP-25 held in Madrid in 2019: "I am disappointed with the results of COP25. The international community lost an important opportunity to show increased ambition on mitigation, adaptation & finance to tackle the climate crisis."

No comment or perhaps just to remember what Margaret Thatcher once said, "*Global warming provides a marvellous excuse for global socialism*".

According to the Energy Transition Commission (source BBC) we need to reduce projected GHG emissions to 26.6 gigatons in 2030, but pledges made in Glasgow will limit them only to 41,9 gigatons. It means that, if fulfilled, they will limit global warming only to about 2.4 C, instead of the 1.5 C which is so urgently needed.

To meet this goal, agreed in Paris in 2015, global emissions need to be reduced by 45% by 2030 and to nearly zero by mid-century, reaching so called “carbon neutrality”. Without any surprise the evidence-based recipe for how to achieve it came out just before COP-26, from the scientific conference organized on 60-th anniversary of CITEPA ([www.efca.net](http://www.efca.net)), also in the capital of France (*Noblesse oblige*).

Its title “*Les enjeux air, climat et énergie de la transition*” left me quite clear! To achieve 1.5 C we must fight on two fronts; one to eliminate fossil fuels and a second to make “methane neutral agriculture” while preserving forests as CO<sub>2</sub> captor. Mathematically speaking the stock of GHG in the atmosphere must diminish. In other words, direct atmospheric capture of carbon dioxide (forest and raw material) must outweigh its input (emissions) at best in the presence of catalyst. And who will accelerate our progress? First, the young generation who is following Greta Thunberg, more and more vegan and committed to its future and second the market proving that production, storage, and distribution of green energy is less expensive than that generated from fossil fuels. The era of burning coal and eating meat is ending? In any case not so quickly and that’s why we in EFCA still have a lot to do to promote further the “one atmosphere approach”, to evidence climate and pollution interactions and to frame synergistic and symmetric policies. And not forgetting to address ultrafine particles, the most dangerous for our health.

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## News from EFCA

### Outcome of the EFCA session on EMISSIONS FROM SHIPPING

*by Andrzej Jagusiewicz, president of EFCA*

EFCA President attended virtually the 7th TFTEI Annual Meeting on 29th of October 2021. He was invited to present, according to its agenda, the outcome of the EFCA session on “EMISSIONS FROM SHIPPING” held at 12th CROATIAN SCIENTIFIC and PROFESSIONAL CONFERENCE, in Medulin (Istria) on 16th of September 2021. In his presentation, he focused on the main conclusions from the session he chaired and moderated, underlying the following:

- *The ship emissions of SO<sub>2</sub>, NO<sub>x</sub>, VOC, PM<sub>10</sub>, PM<sub>2.5</sub> and BC (PAH) at global level is constantly rising, except in so called „Emission Control Areas“;*
- *Most of all ship pollution (85 %) is in the northern hemisphere, the geographical area of UNECE and its Air Convention.*
- *In general, ships spend only 20 % of the time at sea and far from land, while during 80 % of the time they are harboured (55 %) or close to the coast (25%);*
- *Its impact is primarily on port areas due to high operating temperatures and pressures when manoeuvring (higher fuel consumption) and increase that coming directly from the port infrastructure as such.*
- *A part exhaust pollution, fugitive emissions from shipping is quite important related to loading and unloading activities of bulk liquid cargoes and include mainly emissions of VOC.*
- *Because the ship and port infrastructure emissions, remain so far poorly regulated, these sources are among the world’s most polluting combustion sources per ton of fuel consumed.*
- *On sea sulphur deposition is the greatest along the shipping lines because SO<sub>2</sub> is highly water soluble, especially in alkaline sea water whereas on land, the largest contribution from shipping to the total sulphur deposition is along the coasts, where some SO<sub>2</sub> has already been oxidized and the deposition consists also of secondary pollutants (sulphates);*

- *Most of the emitted NO<sub>2</sub> first undergo oxidation in the atmosphere before it is deposited, primarily as particulate nitrate, which is less soluble than sulphates in water or rain droplets causing the highest deposition of oxidised nitrogen along the coasts.*
- *SECA and NECA are very effective measures to lower ecosystem impacts from shipping and can be subject to monetary valuation, but effects on eutrophication will come around 2040 only.*
- *Monitoring, reporting and verification system (MRV) for CO<sub>2</sub> (ETS for ships in 2022), already in place can be extended on classic air pollutants.*
- *Port environmental index (air, water, waste, and noise) is a useful tool to green its activities (electrification, LNG infrastructure and hydrogen).*

During a short round-table discussion, the participants led by Vice-Chair of EFCA, John Murlis, addressed a few policy elements, which may be considered by the responsible bodies:

- *The ongoing revision of the Amended Gothenburg Protocol (AGP) under the Air Convention offers a perfect occasion to prepare an annex on control techniques for ship emissions (85 % of ship pollution in UNECE area).*
- *Draft TFEI informal technical document as of November 2020 prepared by CITEPA can be seen as important step in the process and pave the way to extend AGP on ships.*
- *Statement to manage UfPs with the revised WHO Air Quality Guidelines, may include ship-oriented measures but the related input is still needed.*
- *Shipping is a global business then IMO/MARPOL Convention and its Annex VI should be used as much as possible to establish SECA and NECA.*
- *The initiatives to do so must come primarily from the Governing Bodies of the regional sea conventions (the Helsinki Convention (HELCOM) for the Baltic Sea already in compliance) like the OSPAR Convention for the North Sea, the Barcelona Convention for the Mediterranean Sea and the Danube Convention for the Black Sea.*
- *MRV system should be extended on classic pollutants emitted from ships/shipping.*

Concerning TEFTEI Annual Meeting the most important and of interest to EFCA were inter alia the following topics:

- *Review of the Technical Annexes of the Gothenburg Protocol from stationary and mobile sources, including an Annexe X on PM/Black Carbon,*
- *Nitrogen oxides reduction (DeNOx)- state of performance across industries and future perspectives (NECA) presented by Denmark, which may be useful in relation to the control technology for ships*
- *Case study of the use of electrostatic precipitators (ESP) in domestic heating in Switzerland.*

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### **Forty-first session of the Executive Body (EB) for the Convention on Long-range Transboundary Air Pollution, Geneva, 6–8 December 2021**

*by Andrzej Jagusiewicz*

The session was held in a hybrid mode with few persons in the conference room, mainly from the secretariat. EFCA President, invited to the event, attended it virtually. The most interesting agenda items for us were devoted to policy development on reduction of emissions from agricultural residue burning (relevant guidance prepared by the Task Force on Techno-Economic Issues-TEFTEI were adopted-**ECE/EB.AIR/2021/5**) and on prioritizing reductions of particulate matter from sources that are also significant sources of black carbon (relevant analysis and guidance prepared by the Task Force on Integrated Assessment Modelling in cooperation with TEFTEI also were adopted-**ECE/EB.AIR/2021/6**).

The EB took note of the progress in the review of sufficiency and effectiveness of the Gothenburg Protocol as amended in 2012 and decided on future work. Unfortunately, the progress is rather slow as initial target year of the Protocol 2020, has passed. But still slower is the involvement of the countries in Eastern Europe, the Caucasus, and Central Asia (EECCA), many of them are not yet even parties to

the Convention without mentioning its main protocols.

Although the secretariat and several parties of the Convention have made a lot of efforts to build capacity and rising awareness to get EECCA countries on board (ratification and/or implementation of these instruments) the reality is far from expected. A perfect occasion for them may offer the Forum for international cooperation on air pollution led now by the Task Force co-chaired by Sweden and the United Kingdom of Great Britain and North Ireland and reporting to the Working Group on Strategies and Review.

It's worth to mention, the informal document on the cost of inaction

(<https://unece.org/info/events/event/350953>), whose objective is to encourage future ratification and implementation of Air Convention protocols, clarifying to policymakers what would be the costs of inaction on air pollution was very welcome and need further refinement to be officially adopted at the next EB session. I strongly recommend considering it by our members and, why not, comment by 7 January 2022 (comments on the document to be sent to stefan.astrom@ivl.se with cc to [air\\_meetings@un.org](mailto:air_meetings@un.org)).

The work plan for 2022-2023 adopted by EB, offer an opportunity to cooperate further with the Convention's bodies, mainly with TEFTI.

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## Ultrafine Particles - Air Quality and Climate

International Symposium 2022, 5-6 July, Brussels, Belgium

Ultrafine particles (UFP), the nano fraction of airborne particulate matter, are considered to be causing serious health problems and environmental effects. Combustion is a major source, also by producing volatile organic pollutants which are converted in the atmosphere by photochemical reactions. Increasing applications of man-made nanomaterials add to the problem. A further interest results from their specific role in atmospheric processes such as cloud formation and

precipitation and, in fact, in climate. The relation between UFP and human health and that of UFP and climate are both areas of active research and cross-links between these fields are found nowadays.

The political objective to decrease exposure to particulate matter makes use of the mass-based metrics PM10/PM2.5, which do not properly represent all risks for human health. EFCA is, therefore, in favor of the development of a fraction-by-fraction approach on particulate matter, both with respect to size and chemical composition. It already recommended European policymakers the introduction of Black Carbon Particles as additional metric in the Air Quality Directive.

EFCA's 8th Ultra- Fine Particles Symposium 2022 will again feature the most recent scientific progress and improve the dialogue with policy- and rule makers in Europe. The Symposium has gained visibility by its venue at the Baden-Württemberg State Representation in Brussels and attracts an effective mix of EU representatives and scientists. EFCA and KIT, together with GUS and CEEES are pleased to organize this event again. We cordially invite all experts to contribute actively and hope to see you again at the State representation of Baden-Württemberg in Brussels in July 2022.

Scientific Focus of the 2022 Symposium

Hopefully back to normal meeting conditions and following the short online event in 2021 due to the pandemic restrictions the scientific focus of the 2022 symposium will cover again entire topics on interactions between Ultra Fine Particles and air quality, recent findings, hypothesis, monitoring results, health and impact assessments. Volatile particles and toxic effects, release of UFP, exposure assessment and the effect of lock-down episodes shall be treated.

More information will be provided early 2022 along with the 'Call for Papers' but it would be wise to save the symposium date already today.

Thomas Leisner (KIT, Chairman of the meeting) and the UFP team;

Feedback and Register for Participation  
Karlsruhe Institute of Technology  
[ufp@imk-aaf.kit.edu](mailto:ufp@imk-aaf.kit.edu)

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## News from EFCA Members



### **“AIR PROTECTION 2021” 12<sup>th</sup> Croatian scientific and professional conference**

*by Gordana Pehcec; CAPP;*

The Croatian Air Pollution Prevention Association (CAPP) organized for the twelfth time the national scientific and professional conference with international participation “Air Protection”. This year’s “Air Protection 2021” was held 15th-17th September 2021 at the Park Plaza Belvedere Hotel in Medulin, Croatia. The co-organizers were the Institute for Medical Research and Occupational Health, Croatian Meteorological and Hydrological Service, European Federation of Clean Air and Environmental Protection Associations (EFCA) and International Union of Air Pollution Prevention and Environmental Protection Associations (IUAPPA). The Conference was organized under the auspices of the Ministry of Economy and Sustainable Development of the Republic of Croatia.

In an effort to continue with the longstanding tradition of organising this scientific and professional conference (since 1997), and to preserve its bi-annual continuity, this year the “Air Protection” was for the first time organized simultaneously as a live and virtual meeting. A virtual connection enabled us, in this time of the COVID-19 pandemic, to reach those who are physically distant and would not otherwise be able to participate in the Conference.

More than 130 participants, from which 96 participated in person at the Conference venue, not only show that the international and domestic professional public are more than interested in the topic of air pollution but also that the work of the Croatian Air Pollution Prevention Association and the Conference itself is well recognized in the country and abroad.



The participants of Air Protection 2021 presented their experiences through 54 submitted presentations (37 oral presentations and 17 posters) in 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 “Air pollution from shipping emissions
8. IUAPPA and Global Forum special session: “Respiratory pandemics and air pollution: exploring the links“

A special session of the European Federation of Clean Air and Environmental Protection Associations was organized during the Conference for the fifth time. On this occasion, Vladimira Vadić (CAPP) was honoured from EFCA with the “Honorary Presidency” for her outstanding contribution and support to the development of EFCA and her years’ services as vice president.



EFCA session was held on 16th September and included six presentations on air pollution from shipping. The session was chaired by Dr Andrzej Jagusiewicz, the president of the EFCA, who held an introductory presentation on shipping as an aggressive sector of ultrafine particles (UfP) emission.



The second presentation was on maritime shipping emissions, reduction techniques and their costs (presenting author Grégoire Bongrand, TFTEI, France), followed by a presentation by Ana Alebić Juretić (Faculty of Medicine Rijeka, Croatia) on the characterization of maritime impact on air quality in two port cities, Rijeka (Croatia) and Venice (Italy). Zdenko Franić (Institute for Medical Research and Occupational Health, Croatia) held a presentation on monitoring, reporting and verification of CO<sub>2</sub> emissions in maritime transport, while Matija Široka (Faculty of Medicine Rijeka, Croatia) showed a quantitative method for assessing the

environmental impact of port activities through the port environmental index. Finally, Andrzej Jagusiewicz held a presentation on the cost and environmental benefits of IMO regulations of ship-originated SO<sub>x</sub> and NO<sub>x</sub> emissions, assessed for the case of the Baltic Sea. The panel discussion was moderated by John Murlis (EPUK).

This year, for the second time a special IUAPPA session was organized during the Conference, in cooperation with the International Union of Air Pollution Prevention and Environmental Protection Associations. The topic of the IUAPPA session was exploring the links between COVID-19 and air pollution. Although the COVID-19 pandemic raised enormous uncertainties and challenges, from the start there was agreement that there were likely significant links and interfaces with air pollution even though their nature and scale was unclear. The session was chaired by Richard Mills (IUAPPA) and John Murlis (EPUK). An opening presentation on the WMO Report on COVID-19 was given by Dr Vincent-Henri Peuch, a member of the WMO Team and Director of the Copernicus Atmosphere Monitoring Service. The presentation from Professor Robert L. Maynard, UK, reviewed the most significant published studies from 2020 and 2021 and assessed their implications for the future (due to technical difficulties this was presented by John Murlis). Dr Heather Watson, UK, then gave a presentation on current progress and priorities for future work in understanding the relationships between COVID-19 and air pollution. These presentations provided a starting point for a discussion designed to clarify and refine the key issues, come to a view on what is known and what remains unknown on these issues, and begin to identify priorities for future work. The consensus from the session was, that although an enormous number of papers had been published in the first year of the pandemic they were of such varying quality that it was difficult at this early stage to reach firm conclusions on the relationship between the virus and air pollution. Nevertheless the following preliminary conclusions could be drawn:

- Particulate matter played no significant role in transport of the virus
- It was not yet clear how far those habitually subject to poor air quality might be more susceptible to infection
- There was clear evidence that those with pre-existing conditions caused or exacerbated by exposure to air pollution would suffer more severe illness from the virus and have a reduced chance of survival.

A round table discussion on the last day of the “Air Protection 2021” was held as a concluding discussion on all topics of the Conference. The conclusions and discussion of this Round Table will be sent to the Ministry of Economy and Sustainable Development, and the Meeting will be reported through the journal Archives of Industrial Hygiene and Toxicology (<https://hrcak.srce.hr/aiht?lang=en>)

An abstract book (ed. G. Peh nec) containing presentation abstracts, both in Croatian and English, was distributed to the participants along with other materials. The Book of Abstracts can be found at the CAPP A web-page (<http://www.huzz.hr>). The Conference Proceedings with full papers will be published by the end of this year.

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## The eyes of the world were on Scotland as COP26 took place in Glasgow

*By John Bynorth; policy and communications officer, Environmental Protection Scotland (EPS)*

Over two weeks in November, delegates of more than 190 world countries came together for the United Nations climate change conference.

The Glasgow Climate Pact disappointed campaigners and the most vulnerable countries after the initial text that included a ‘phase out’

declaration in relation to coal became ‘phase down’ after objections from China and India led to late re-negotiations. The statement, however, represented the first to be agreed at a COP meeting to reduce reliance on the fossil fuel.

There were a number of other deals; deforestation, methane emissions, climate cooperation between the USA and China, India’s pledge to achieve net-zero Greenhouse Gas (GHGs) emissions by 2070, and a doubling of the proportion of climate finance destined for poorer countries to be spent on climate adaptation. There was some progress on Nationally Determined Contributions (NDCs) to limit temperature rises to 1.5C, with this to be taken forward for discussion at COP27 in Egypt. COP26 delegates heard presentations by indigenous climate activists such as India Logan-Riley, who highlighted the divide between the more prosperous global north and the less prosperous global south which are poorly equipped to deal with rising ocean and temperature levels, more rainfall and droughts from which they are already suffering.

There were speeches by former US president Barack Obama, House of Representatives Speaker Nancy Pelosi, princes Charles and William, and philanthropist Bill Gates. Actor Leonardo Di Caprio also attended. Rosamund Adoo-Kissi-Debrah took her air quality campaign to Glasgow on behalf of The Ella Roberta Family Foundation, which was created in memory of her daughter.



Ella died, aged nine, in February 2013 following a severe asthma attack after living for years near a London road where recorded levels of NO<sub>2</sub> were in excess of World Health Organisation (WHO) and EU safe guidelines, and had also been exposed to Particulate Matter levels above the WHO safe

guidelines. In 2020, a coroner issued a written judgement that Ella had died from asthma 'contributed to by exposure to excessive air pollution.'

The streets of Glasgow were closed off to traffic as thousands of climate activists marched during COP26. School children joined politicians, activists and there were speeches by Greta Thunberg and Uganda's Vanessa Nakate in Glasgow's George Square.



EPS took part in the march and we were impressed by their dedication and commitment in tackling climate change.

Many of the demonstrators' banners targeted the extraction of fossil fuels, in particular the proposed development of the Cambo oil field, North West of the Shetland Islands. In what could be seen as a reflection of changing attitudes, Royal Dutch Shell pulled out of Cambo three weeks after COP26 ended.

Scotland is committed to reducing Scotland's share of Greenhouse Gas (GHGs) emissions to net-zero by 2045 (the UK Government has a 2050 net-zero pledge). The Scottish Government became the first government anywhere in the UK to agree a power-sharing arrangement with the Green Party following the Scottish parliamentary elections in May.

Following the COVID-19 lockdowns, people across Scotland have a better understanding of the value of greenspace to their health, mental health and overall wellbeing. EPS drew on research by the EU INHERIT project and Scotland's Place Standard for our new e-leaflet 'Pursuing The Triple Win in a Scottish context.' This examined the links between health, wellbeing, equity and the environment and can be downloaded [here](#).

EPS participated in the first meeting of the delivery group for Scotland's new clean air strategy, Cleaner Air For Scotland 2 (CAFS 2). CAFS 2 will tackle a range of pollution sources, aside from transport, including domestic burning, biomass, agricultural practices and commission further research to better understand the wider health impacts of air pollution in Scotland and increase levels of public engagement around air quality.

EPS coordinated Clean Air Day on 17th June and 192 people and organisations took part in the campaign which aimed to encourage people to take individual actions, such as to cut down on private vehicle use to improve air quality. People posted or tweeted about their individual 'Clean Air Day pledges' to cycle, walk, use public transport or to try another low polluting activity. We gave away colouring-in books to schools which had active travel, electric vehicle and sustainability themes and look forward to organising the next Clean Air Day campaign on 16th June 2022.

Edinburgh published detailed plans for a Low Emission Zone (LEZ). Dundee, Glasgow and Aberdeen will also create LEZs and impose fines of £60 (70 euros) on vehicle owners who drive older, non-compliant diesel or petrol vehicle into the four cities from June 2023. Fines will double each time someone's non-compliant vehicle enters an ELZ to a maximum of £480 (564 euros) for cars/vans and £960 (£1,120 euros) for lorries and buses. This will not affect the owners of less polluting Euro 6/VI diesel cars and vans, or Euro 4/IV petrol vehicles or electric/hydrogen vehicles. The LEZs will be introduced in late May 2022, initially to raise awareness of the forthcoming changes.

The aim is to tackle certain pollution hotspots with the aim of bringing certain pollutants, including NO<sub>2</sub>, back to within EU legal limits. The Scottish Government increased funding for active travel during the pandemic with improved bus links and bike-hire infrastructure and pedestrian walkways encouraging people to cycle and walk more frequently, but there are some concerns that people are using their cars over public transport to avoid the virus.

Further links:

Scottish Government Cleaner Air For Scotland 2 (CAFS 2) strategy

<https://www.gov.scot/publications/cleaner-air-scotland-2-towards-better-place-everyone/>

The Ella Roberta Family Foundation

<http://ellaroberta.org/>



## New European and International Standards

- FprEN 13725:2021, Stationary source emissions – Determination of odour concentration by dynamic olfactometry and odour emission rate
- ISO 12219-1:2021, Interior air of road vehicles – Part 1: Whole vehicle test chamber – Specification and method for the determination of volatile organic compounds in cabin interiors
- ISO 16000-6:2021, Indoor air – Part 6: Determination of organic compounds (VVOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS FID
- ISO/DIS 23861:2021, Workplace air – Chemical agent present as a mixture of airborne particles and vapours – Requirements for evaluation of measuring procedures using samplers

[www.vdi.de/krdl](http://www.vdi.de/krdl)

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## News from the European Commission



CLEAN AVIATION

### Clean Aviation takes flight!

The European Partnership for Clean Aviation is now underway! Entering into force on 30th November 2021, Clean Aviation is the European Commission's public-private partnership for climate-neutral aviation, under the umbrella of Horizon Europe. Clean Aviation represents the world's most ambitious research and innovation agenda for a sustainable aviation sector that contributes to the EU Green Deal and the EU's Industrial Strategy. It will be a vital stepping-stone along Europe's path towards becoming the first continent to reach climate neutrality by 2050.

Three main thrusts will form the pillars of the new European Partnership: hybrid electric and full electric concepts, ultra-efficient aircraft architectures, and disruptive technologies to enable hydrogen-powered aircraft.

The unique approach of the Partnership – bringing together the best ideas and talent from industry, academia, research centres and SMEs – will ensure a vibrant and competitive research environment, transforming European aviation towards climate neutrality, supporting mobility goals and creating sustainable economic value.

Clean Aviation will build on the achievements of the two successive Clean Sky Joint Undertakings, which have supported research and innovation in sustainable aviation technology since 2008 to significantly reduce CO<sub>2</sub>, NO<sub>x</sub> and noise emissions. Clean Aviation is also looking for scientists to take part in the Scientific Advisory Body. Candidates should have a University degree in a relevant scientific area (preferably at post-graduate level), and at least 15 years of professional experience and competence in a field relevant to the challenge of significantly reducing aviation's climate impact.

Source: [newsletter@clean-aviation.eu](mailto:newsletter@clean-aviation.eu); Wednesday 01/12/2021

## Calendar



**Working Group on Strategies and Review, 60th session; UNECE Air Convention**

11 - 14 April 2022; Switzerland

<https://unece.org/environmental-policy/events/working-group-strategies-and-review-sixtieth-session>



EFCA



**Ultrafine Particles - Air Quality and Climate; International Symposium 2022**

5-6 July 2022, Brussels, Belgium

Representation of the State of Baden-Württemberg to the European Union

<https://efca.net>

**8<sup>th</sup> TEFTEI Annual Meeting,**

October 2022, place tbd



**9<sup>th</sup> International Symposium on Non-CO<sub>2</sub> Greenhouse Gases**

2-4 November, 2022; Amsterdam, The Netherlands

<https://www.ncgg.info/>

**42<sup>nd</sup> session of the Executive Body for the Convention on Long-range Transboundary Air Pollution**

12-14 December 2022, Geneva, Switzerland

## **EFCA**

### **President**

Andrzej Jagusiewicz (PIGE, Poland)

### **Vice Presidents**

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John Murlis (EPUK, UK)

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