

# CEM 2011 - the Conference Promoting the Advancement and Future of Emission Monitoring

**Requirements for reducing emissions of air pollution have been evolving since middle of the 20th century and, as a result, they are now a complex medley of limits, targets and caps. Sources must not only comply with rigid emission limits but must also provide emissions data to a number of different agencies and bodies to conform with the different legislative formats and reporting systems at the regional, national and international level.**

Reporting requirements therefore vary throughout the world according to local, national and international legislation and action plans. In most situations, the methods for measuring and monitoring emissions use either commercially based automated monitoring systems or use manual methodologies which are based on empirical assumptions. However, despite this, different requirements and methodologies have been developed independently around the world.

CEN, the European Standards Committee, produces standards for emissions monitoring which are obligatory in EU member states. The US EPA produces distinct but similar standards for use in the USA. ISO, the International Standards Organisation, produces voluntary standards which may be used by countries when there are no relevant national standards available. Although these standards may vary between CEN, ISO and the US EPA, they are generally based upon the same empirical measurement principles. The accuracy and comparability of data from different regions of the world are often hindered more by the different units of measurement used than the methods themselves.

For the major pollutants - particulates, SO<sub>2</sub> and NO<sub>x</sub> - CEM systems are standard on all plants in developed nations and are becoming increasingly common in China and other regions in Asia for compliance monitoring. However, for estimation of emissions at the national level, for reporting to national and international level, emission factors remain the method of choice. But these emission factors are based on data from actual plant-specific measurements.

Over and above the moves towards the improvement and standardisation of measurement technologies and approaches, there is also a move towards certification of monitoring equipment, laboratories and stack testing personnel. Again, there are different schemes appearing in different areas of the world but the ultimate aim is the same - to ensure that the best quality data is obtained and reported.

CEM provides an open forum for experts to discuss the different methods and technologies that are used to ensure that emission sources comply with applicable emission legislation and related performance requirements and, where possible, to learn from these discussions in order to promote more coordination in future.

The international community is currently working to improve the co-ordination between monitoring systems and the legislation they support - for example, the EU aims to improve the alignment between the Large Combustion Plant Directive and the Integrated Pollution Prevention and Control Directive with the introduction of the Industrial Emissions Directive. But what will these and other changes in emission legislation mean for the pollution monitoring industry?

- more pollutants will require monitoring from a greater number of sources (for example, mercury has moved up the agenda in the EU, USA and Asia ahead of the legally



binding UN EP Global Treaty on Mercury to be set in 2013). Other trace elements such as selenium and arsenic are also being raised as potential issues to be dealt with in future;

- advanced systems and methods will be required to measure lower and lower concentrations of pollutants as emission limits tighten and pollution control equipment becomes more efficient;
- speciation of pollutants such as PM<sub>10/2.5</sub> will become a priority as non-attainment areas struggle to determine how best to target reductions;
- increased accuracy will become paramount as pollutants such as N<sub>2</sub>O and CH<sub>4</sub> are introduced to trading markets in the EU and USA. Once a monetary value comes into play, measurement accuracy becomes an economic target as well as an environmental one. Emission factors may be called into question, with real data being used to confirm or refute;
- as legislation and action plans grow in number and stringency, the importance of monitoring and quantifying this pollution in an accurate and transparent manner will become a priority. Real-time and on-line reporting systems will be the aim for most large sources.



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CEM 2011 is the only conference which facilitates open discussion between regulators, authorities, sources, measurement companies and other interested parties to discuss all these issues on a level playing field.

The organisational force behind CEM 2011 is the IEA CCC and the STA. The International Energy Agency - Clean Coal Centre - [www.iea-coal.org.uk](http://www.iea-coal.org.uk) - is the world's foremost provider of non-biased information on the use of clean coal worldwide. IEA CCC products include in-depth topical reports and online databases of coal information. They also provide advice, facilitate R&D networks and organise workshops. The IEA CCC is funded by member countries and industrial sponsors so the analysis stays impartial.

The Source Testing Association (STA), [www.s-t-a.org](http://www.s-t-a.org), was established in 1995 and has a corporate membership of over 200 companies from process operators, regulators, equipment suppliers and test laboratories. The STA is a non-profit making organisation.

The STA is committed to the advancement of the science and practice of emission monitoring and to develop and maintain a high quality of service to customers. Its aims and objectives are to:

- i. contribute to the development of industry standards, codes, safety procedures and operating principles;
- ii. encourage the personal and professional development of practicing source testers and students;
- iii. maintain a body of current sampling knowledge;
- iv. assist in maintenance of a high level of ethical conduct;
- v. seek co-operative endeavours with other professional organisations, institutions and regulatory bodies, nationally and internationally, that are engaged in source emissions testing.

The Association offers a package of benefits to its members which include:

- Technical advice relating to emission monitoring
- Conference and exhibition opportunities
- Seminars and training on a variety of related activities

Over the years the STA has been involved in and organising many conferences and events relating to emission monitoring of particular note has been the CEM series of conference and exhibition, co organised and sponsored by IEA CCC. This International event has been organised in many European Countries since its inaugural meeting in 1997, including the UK, France and Italy.



CEM, the International Conference on Emissions Monitoring, has grown in strength and popularity. CEM 2011 will continue this position as the major international conference and exhibition specifically designed to cover the subject of source emissions monitoring in its entirety.

CEM 2011 includes 5 sessions:

1. Legislation and its effects on the industry
2. Monitoring of particulates and trace species
3. Remote and diffuse monitoring
4. Quality assurance and control and the effects on emission monitoring
5. Industrial applications and case studies

But the conference programme is only one part of the CEM 2011 experience. The posters and extensive exhibition offer delegates the chance to chat and interact with those who may be able to answer the very questions that would solve the challenges they face. The social agenda is designed to maximise the time delegates have free to ask awkward questions, handle equipment and to relax into the extended network of the now well established CEM-community. Now the 10th International conference will be held in Prague, The Czech Republic from 5th to 7th October for more details visit [www.cem.uk.com](http://www.cem.uk.com).



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