



Air Quality in Scotland

Welcome to the 19th Scottish Air Quality Database (SAQD) stakeholder's newsletter. This newsletter is produced on behalf of the Scottish Government by Ricardo and is designed to provide regular updates and news regarding the SAQD and local air quality matters to all stakeholders. This may include; updates to the network; new information on air quality issues; updates on changes in policy and procedures; new initiatives and events; technical reports; and how to access data using the Air Quality in Scotland website.

If you have any information which you think would be beneficial to include in a future newsletter, please email us at aq-monitoring-scotland@ricardo.com.

NEWS

Scottish Air Quality Database and Website Project Annual Seminar 2023

We would like to invite you to attend the Scottish Air Quality Annual Seminar 2024 run by the Scottish Government as part of the Scottish Air Quality Database and Website project. As with the previous three years, the 2024 seminar will be carried out over three 2-hour long webinars **on Wednesday 13th, 20th and 27th March 2022, between 13:00 and 15:00 GMT.**

We are still in the process of finalising the agenda, however we have already secured a number of very interesting speakers talking on subjects such as:

- Up in Smoke: Why we must rethink Wood burning stoves (Dr James Heydon, Uni of Nottingham)
- Forth Environmental Resilience Array Project (Dr Heather Price)
- Air Pollution Footprint Tool (Ella Wingard, Ricardo)
- Transport Scotland's Remote Sensing Monitoring Programme (Derek McCready)
- Air Pollution Assessment Service (APAS) – Delivering the CAFS Regional Air Quality Model (Mark Williams SEPA)
- Scenario Modelling Tools (Dr Scott Hamilton, Ricardo)

In addition, we have also secured a presentation from Professor Sir Stephen Holgate.

[Please register for these FREE events here](#)

Once you have registered, you will receive a confirmation email for each day with your joining link and a diary appointment link.

At the scheduled start time, click the 'Join Event' link in your confirmation email, or saved calendar appointment.

SAQD Annual Report and Brochure 2022

On the 15th of December the Scottish Government published the Scottish Air Quality Database Annual report and Brochure for 2022 data has been published on the website and can be found [here](#).

Grangemouth oil refinery update- written by Falkirk Council

Grangemouth Refinery is an oil refinery complex located on the Firth of Forth in Grangemouth, Scotland, currently operated by Petroineos. It is the only operating crude oil refinery in Scotland and currently one of the six remaining UK Refineries. It is reputedly the UK's second-oldest, supplying refined products (such as petrol, diesel, aviation fuel, naphtha etc.) to customers in Scotland, northern England and Northern Ireland, as well as occasionally further afield. Crude oil is piped directly from the North

Sea oil platforms to Grangemouth for refining via the Forties pipeline.

One of the Falkirk Council areas which had historic, poor air quality was Grangemouth. Its town centre and nearby residential areas are located adjacent to this large industrial petrochemical area and international shipping container port. The geographical location and transport infrastructure (nearby the Forth estuary and the M9 motorway) enables Grangemouth to be advantageous for these national and economically significant industries.

Air quality in Grangemouth has generally improved in recent years but has suffered historical poor air quality mainly due to industrial flaring from the petrochemical complex along with associated industries and the international shipping container port. An Air Quality Management Area (AQMA) encompassing a section of Grangemouth was declared in 2005 due to exceedances of the sulphur dioxide (SO₂) 15-minute mean national air quality strategy (NAQS) objective. Measured SO₂ concentrations in Grangemouth have declined over recent years and become regularly compliant with the NAQS objective for around ten years (since 2012). Falkirk Council are progressing the revocation of the Grangemouth AQMA in early 2024 due to compliance with the AQS objective.

Falkirk Council has produced an AQMA summary report which has more info here:

<https://www.falkirk.gov.uk/services/environmental-policy/air-quality/>

A Grangemouth AQMA Detailed Assessment (completed by consultants Sweco) is currently being approved by Scot Gov / SEPA and will be available on the above link in a few weeks. A public consultation will begin thereafter to revoke the AQMA.

Please edit accordingly if needed. Please contact me if you need any further info on this.

Air Quality Sensor Unit blogs

Ricardo have created a series of blogs on air quality monitoring sensors that examine some of the common questions relating to sensor use and highlighting the benefits and potential pitfalls to be aware of, and the right questions to ask suppliers.

Provided below are links to all current blogs. New blogs will be added shortly.

<https://www.ricardo.com/en/news-and-insights/insights/air-quality-sensors-can-you-simply-plug-and-play>

<https://www.ricardo.com/en/news-and-insights/insights/how-to-get-better-value-from-your-air-quality-sensor-system>

<https://www.ricardo.com/en/news-and-insights/insights/performance-testing-of-sensor-systems-the-good-the-bad-and-the-hopeless>

<https://www.ricardo.com/en/news-and-insights/campaigns/independent-gaqc-of-air-quality-sensor-data>

<https://www.ricardo.com/en/news-and-insights/insights/designing-and-implementing-useful-applications-for-air-quality-sensors>

<https://www.ricardo.com/en/news-and-insights/insights/mcerts-and-low-cost-sensors-does-certification-guarantee-real-world-performance>

Real-world vehicle emission emissions monitoring blog

In addition to the Sensor blogs stated above, Ricardo have created a blog post detailing their work on real-world vehicle emission monitoring. Deploying the latest remote sensing technology, Ricardo's vehicle emissions database team has surpassed a million on-road vehicle measurements – making the database the largest UK resource of its type. These unique data provide insights into an unparalleled range of vehicle manufacturer

fleets and a wide range of locations, weather, and road conditions under which the measurements were sampled. These measurements have been carefully matched with vehicle data, including individual vehicle mileage, to provide an unprecedented level of insight into real-world driving emissions. The link is provided below.

<https://www.ricardo.com/en/news-and-insights/insights/ricardo-s-real-world-vehicle-emission-database-reaches-a-million-vehicle-measurements>

Revocation/ Amendments of AQMA's

If you have had an AQMA (Area Quality management Area) revoked or amended recently and it has not yet been update on the Air Quality in Scotland website please go to the LAQM portal and update according. By updating the information in the LAQM portal this will update both the Air Quality Scotland website as well as the UK-Air website database.

The link to the LAQM portal is provided below (<https://www.laqmportal.co.uk/login>)

If you have any issues accessing the portal contact the LAQM portal support team at admin.laqmportal@bureauveritas.com,

This process is a changed to what was previously advised in November last year. If you would like to discuss the change further please contact David Hector (david.hector@ricardo.com)

UK SUMMER 2023 OZONE REPORT PUBLISHED

Throughout summer 2023, the United Kingdom experienced elevated ozone concentrations due to dry, sunny weather and light wind leading to a number of sites exceeding the 1 hour mean O₃ threshold. Ricardo have produced a report looking at each event in detail in addition to the impacts of metrology, regional variations and arriving air masses. The report can be found in the Air Quality in Scotland website technical reports [page](#).

SCOTTISH ENVIRONMENT PROTECTION AGENCY – Written by SEPA

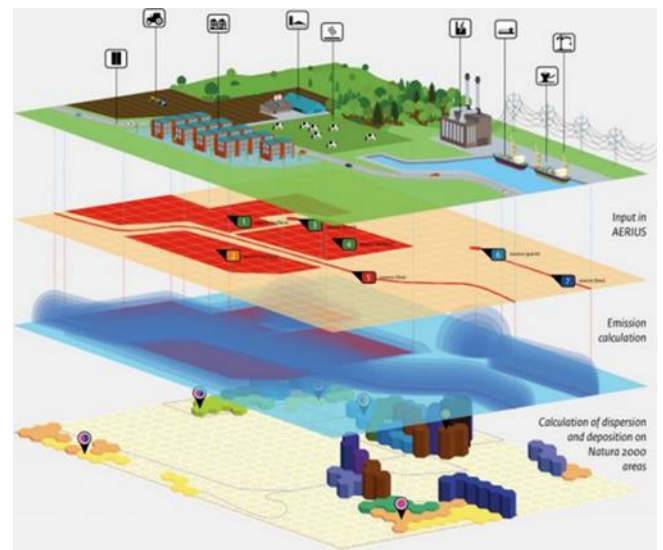
Air Pollution Assessment Service (APAS)

What is the service?

The assessment of air pollution impacts has become increasingly complex and can hamper the implementation of government policies to meet clean air, improved conservation targets and achieve emission reduction commitments.

The UK Air Pollution Assessment Service (UK APAS) is an air quality modelling service that will provide a user-friendly modelling and assessment platform, bringing together the source layers and input data required for assessing potential air quality impacts on ecosystem and human health.

The aim is that UK APAS will help to streamline the permitting and planning process, reducing delays and planning decision challenges by ensuring mitigation measures are considered early in the process.



The origins of the service

UK APAS is based on the Dutch AERIOUS service, which is an on-line air pollution assessment tool used to support the Netherlands' integrated approach to assessing nitrogen

pollution. The Dutch approach combined their habitats assessment model with their air quality model to create a single integrated assessment platform. It has been estimated that Dutch AERIUS has saved €25m in the first 24 months following introduction.

Bringing together both ecosystem and human health assessments into one platform, UK APAS will go well beyond the original deliverables set out within the Scottish Government's Cleaner Air for Scotland (CAFS) strategies, supporting the Scottish Government's National Planning Framework 4 (NPF4) and CAFS Placemaking objectives in delivering sustainable places to live that protect human health, ecosystems and the wider environment.

Current status of the service

The Joint Nature Conservation Committee (JNCC) are leading on the development of UK APAS, with funding from Defra, DAERA and SEPA. Defra will host UK APAS, with the Consortium Group, including the devolved administrations, overseeing the long-term hosting, maintenance and development of the service.

At present JNCC are looking to launch UK APAS early in 2024. Comprehensive training and guidance will be provided via training roadshows and workshops, whilst country specific communication packs will be developed and tailored to support planning, conservation and permitting staff in using UK APAS and integrating the service into their existing procedures, development plan and strategic assessments. Demonstration videos will also be made available to show users how to carry out in-combination, agricultural and farming, industrial and planning/transport related assessments.

Footnote: SEPA, Transport Scotland and the Improvement Service (IS) have developed a central storage facility which is now live on the [IS Spatial Hub](#). Local authorities are encouraged to upload existing and new traffic data to these

pages, thus creating a "one stop shop" for traffic data to support the development of planning scenarios in UK APAS.

Local Authority Activities

Fife Council update on their current anti-idling campaign

Following the Anti-Idling campaign undertaken at various Fife primary schools around Clean Air Day 2023 the winning posters and banner designs have now been manufactured. The banner has now been installed at the winning school in order to raise awareness and change behaviour (see below).



Copies of the posters have also been provided to the winning schools for them to install in and around the school grounds. Extra copies of the posters are in the process of getting installed at locations where complaints of idling vehicles have been received by Fife Councils Environmental Health team and at key sensitive receptors such as hospitals as shown below (Queen Margaret Hospital, Dunfermline).



SAQD QAQC ACTIVITIES

Ricardo will soon be finishing the Winter six monthly audits. If you have not received an audit summary, or are unclear on any of the recommended actions, please contact either the auditor who undertook the visit or aq-monitoring-scotland@ricardo.com. Could you please then pass these on to your ESU's in advance of the service so that any issues can be investigated. If you would like to have any refresher LSO training, or if you have any new LSO's who require training then please let the auditor know when they send through the initial email.

CALIBRATION GAS SHORTAGES

As you may or may not be aware, there is a general shortage and/or longer lead times in obtaining low concentration calibration gas cylinders for AQ monitoring sites. If you are running low on gas and believe you may run out in the near future we recommend that you reduce the calibration frequency from fortnightly to monthly where appropriate. We

would rather have calibrations carried out less frequently than no calibrations at all. If you are already in a position where you can no longer carry out calibrations due to lack of gas please contact one of the Ricardo team as soon as possible and we will look into possible ways to assist.

QUESTION AND ANSWERS SECTION

This section will provide answers to frequently asked questions that relate to different aspects of LAQM ranging from Local Site Operator (LSO) duties to advanced data analysis queries. If you have a question you would like to be answered in this section, please contact aq-monitoring-scotland@ricardo.com.

Q: My regular LSO site visit falls on a bank holiday or when I am on annual leave what should I do?

A: If your regular LSO site visit falls on a bank holiday then please conduct the site visit on the nearest possible working day. If you are due to be on annual leave the LSO visit can either be conducted by another competent team member, who has been trained, or completed on the nearest working day possible.

Q: Why is it important to ensure the cabinet inlets are sealed?

A: Occasionally, it is noted that there has not been a good seal around the inlet tube (where the sample line of the analyser leaves the cabinet). The concentrations of pollutants in the cabinet are usually different from those in the ambient air. This is partly due to byproducts of the analysers working. If there is not a good seal around the inlet pipe in the roof, some 'indoor' air will escape by that route. This will mean that the air being sampled via the inlet pipe is not pure outdoor air, but a mixture of outdoor air and air from inside the hut, therefore this can affect the measurements (see Figure 1). This has led to multiple

instances of data being rejected during the ratification process. Also, if water can leak in around the inlet pipe, electrical equipment can become wet.

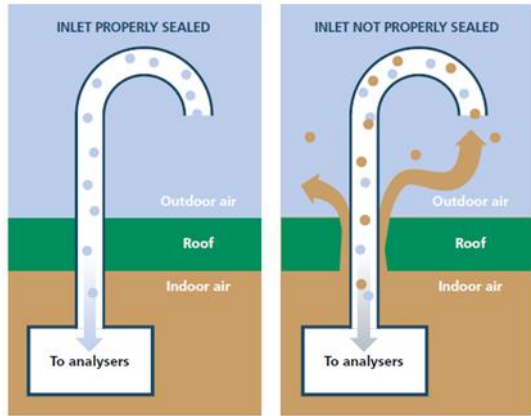


Figure 1: Diagram demonstrating inlets that are sealed and inlets that are not properly sealed.

The hole around the inlet pipe therefore needs to be properly sealed, to prevent 'indoor' air escaping and contaminating the sample. It is recommended that this is done using expanding foam (products such as tape or 'blu-tack' do not do the job properly). The inlet pipes are checked during the six monthly QAQC audits, however if you note anything at site, please comment in the electronic LSO calibration sheet and inform your ESU.

STAY CONNECTED

SAQD PROJECT MANAGEMENT

David Hector

Tel: 01235 753523

E-mail: david.hector@ricardo.com

Stuart Sneddon

Tel: 01235 753015

Email: stuart.sneddon@ricardo.com

SAQD PROJECT DATA MANAGEMENT

Stephen Stratton

Tel: 01235 753072

Email: stephen.stratton@ricardo.com

SCOTTISH GOVERNMENT

Andrew Taylor

Email: andrew.taylor2@gov.scot

RICARDO ENERGY & ENVIRONMENT FIELD OPERATIVES

- **Susannah Telfer**

Tel: 01235 753434

E-mail: susannah.telfer@ricardo.com

- **Sam Copsey**

Tel: 01235 753153

E-mail: sam.copsey@ricardo.com

- **Sion Carpenter**

Tel: 01235 753351

E-mail: sion.carpenter@ricardo.com

- **Stephen Gray**

Tel: 01235 753525

E-mail: stephen.gray@ricardo.com

- **Stephanie Begue**

Tel: 01235 753252

E-mail: stephanie.begue@ricardo.com

- **Matt Jordan**

Tel: 07759 523578

E-mail: Matt.Jordan@ricardo.com

- **Craig Cooper**

Tel: 07543 300620

E-mail: craig.cooper@ricardo.com

Visit our YouTube page

<https://www.youtube.com/user/AirQualityScotland>



Follow us on Twitter



@scotairquality

Download the Air Quality in Scotland app



<https://www.scottishairquality.scot/stay-informed/apps>

Sign up to Scotland's free air pollution alert messaging system



<http://www.scottishairquality.co.uk/know-and-respond/>