



**Ricardo
Energy & Environment**

Clear the Air Educational Programme Scottish Air Quality Database and Website Annual Seminar

Jennifer Simpson – Ricardo Energy and Environment

John Ferguson – St John Ogilvie High School

22nd March 2016



Jennifer Simpson, Ricardo Energy and Environment

- Clear the Air and Its Aims
- Clear the Air Website Overview
- Scottish Government Funded Citizen Science Packs
- Feedback so far

John Ferguson, St John Ogilvie High School

- Citizen Science in the Classroom

Questions



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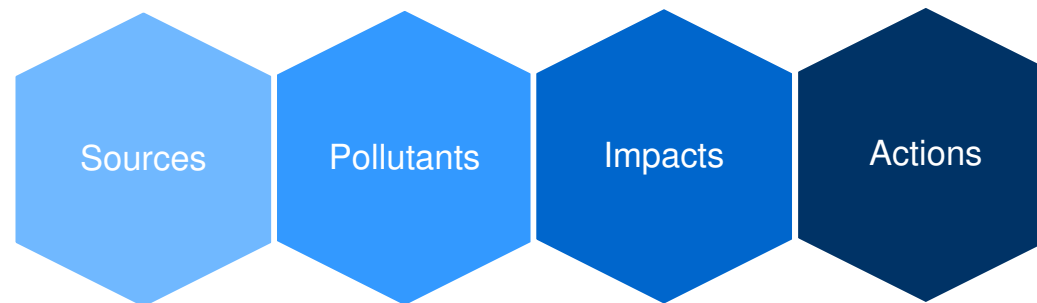
John Ferguson, St John Ogilvie High School

- Citizen Science in the Classroom

Questions

Clean the Air

- An educational air quality resource for 12-15 years olds
- It provides a learning repository with information on:



- A coordinated citizen science study supported by narrated webinars

Clear the Air Educational Program Aims

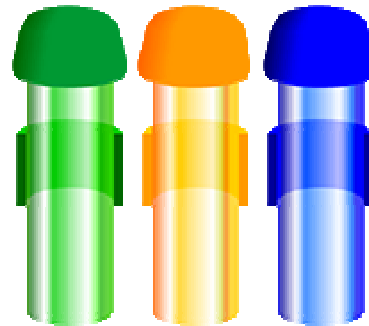


Raise awareness of air pollution

Provide 'hands on' experience of air quality monitoring and assessment

Develop an interest and awareness in science and technology

Encourage behaviour change – “what can I do?”



Clear the Air Educational Programme

Air Quality in Scotland

Clear the Air

Sign in with your school details...

Username

Password

Get help or learn how to sign up

Sign in »

Home

About air pollution

Making a difference

Citizen science

Follow us!

Latest Pollution Levels

Here's how the latest pollution levels across Scotland breakdown.

Low (1-3)	88 sites
Moderate (4-6)	1 sites
High (7-9)	0 sites
Very High (10)	0 sites
No Data	2 sites

Last updated at Today at 11:00

[Get more details on the main website »](#)

Welcome to Clear The Air!

This site is specially for 12-15 year olds to find out more about air pollution and if their school is signed up, use our Citizen Science tools to understand air pollution better.

What's the air pollution near me?

Find out the latest pollution levels from the monitoring sites near where you live or go to school. Enter a location below to find out!

e.g. your home or school

Search »

Get involved in Citizen Science!

Citizen Science lets you collect and analyse air pollution data as a school project. The project enables you to map your school's data.

Find out more »

Calculate your emissions to school...

Use the Clear The Air emissions calculator to find out the impact your journey to school has on the environment.

Calculate your emissions »

You may also want to take a look at...

[» Get help signing in](#)

[» Follow @scotairquality](#)

[» Website cookies policy](#)

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[Visit the Air Quality in Scotland website](#)



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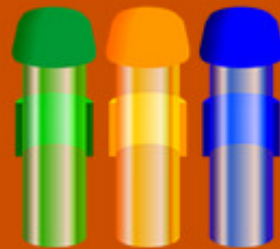
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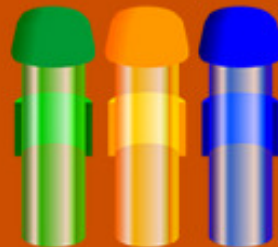


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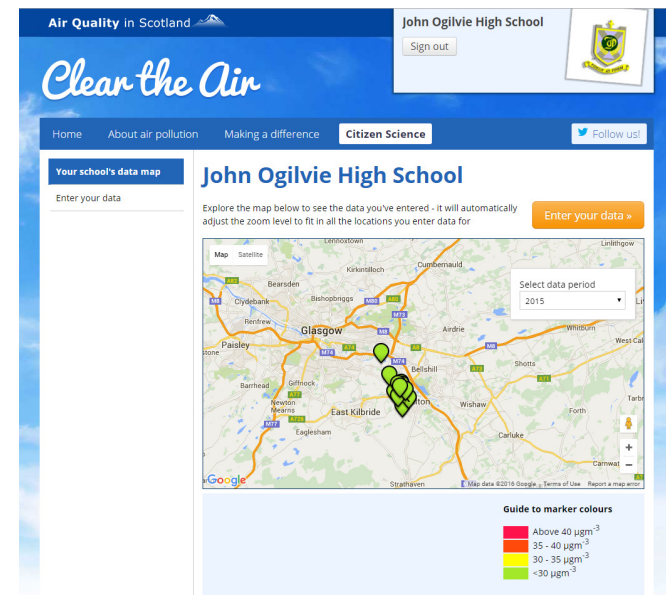


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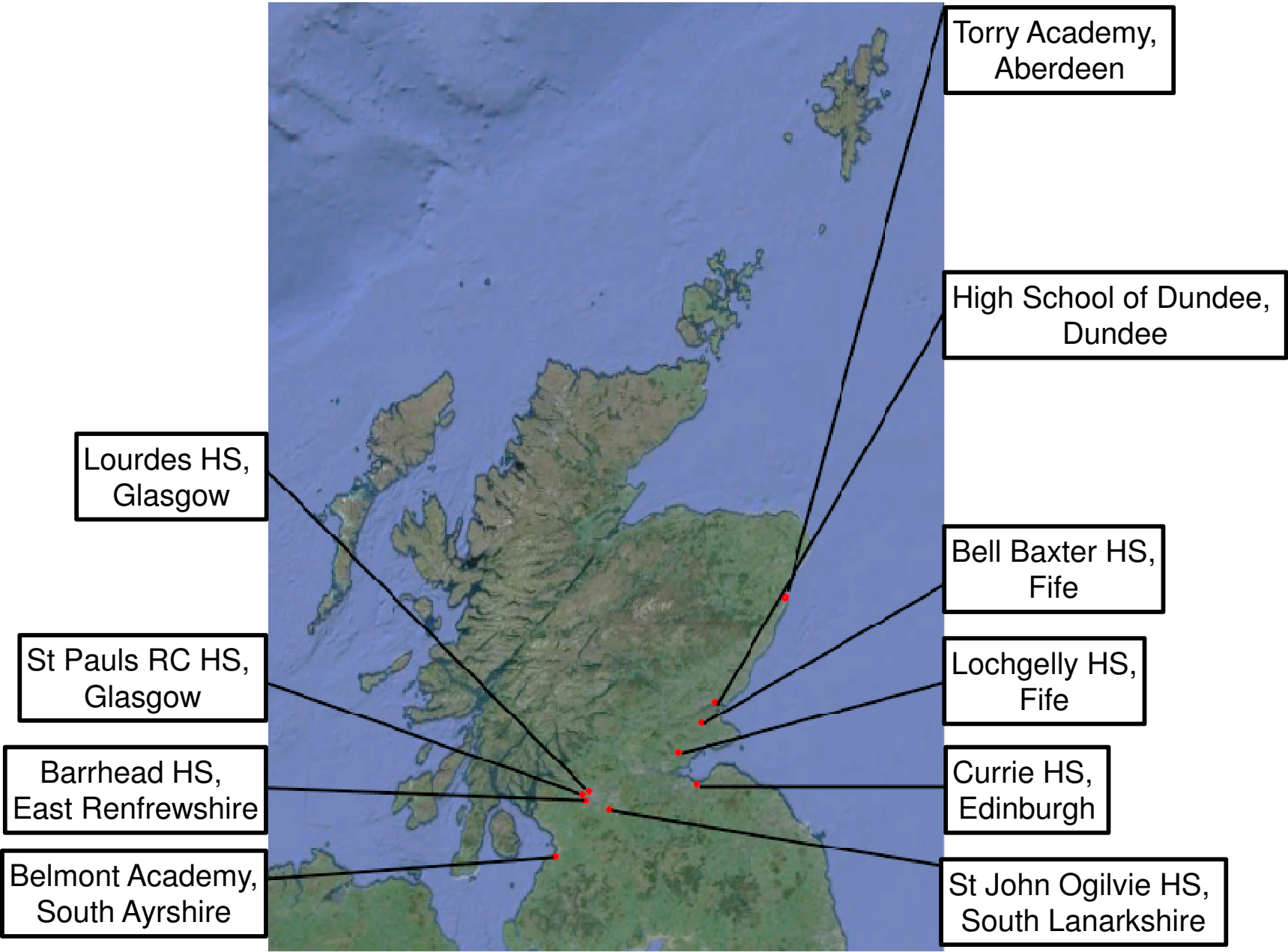
Clear the Air Educational Programme

- 4 Narrated Webinar Sessions
- Teachers Pack
 - provides the teacher with information on:
 - The Clear the Air Education Programme
 - Air Quality and Pollutants
 - Webinar Session information
- Pupil Pack
 - Diffusion Tube Deployment Instructions
 - Home Exposure Detail Sheet
 - Diffusion Tube Checklist
- Custom School Area with secure login



Clear the Air Educational Programme

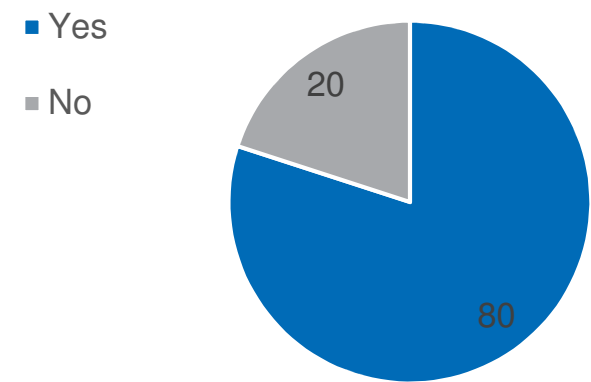
Scottish Government Funded Packs – 10 Schools



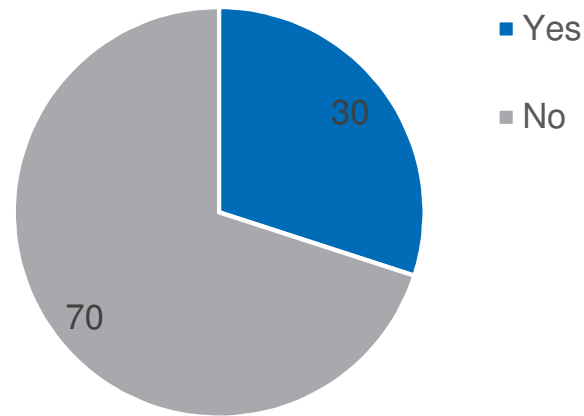
Clear the Air Educational Schools

School Locations with regards to AQMA's

% in Councils that have AQMA



% in the AQMA or within short walking distance of it



Clear the Air Educational Schools

How Are The Packs Being Used?



High School	How is the pack being used
Torry Academy	2 nd Year Science class
High School of Dundee	School science club Advanced Higher Geography student project (using data)
Barrhead HS	2 nd Year Science class Advanced Higher Geography student project (using data)
Currie Community HS	2 nd Year Science class and 'Girls in STEM' group
Bell Baxter HS	2 nd Year Science class
Lochgelly HS	2 nd Year Science class
St Pauls RC HS	1 st and 2 nd Years as part of a 'Save the Future' Science Project
Lourdes HS	After School Science Club
St John Ogilvie HS	2 nd Year Science class
Belmont Academy,	2 ND Year Science class Advanced Higher Geography project (using data)

Clear the Air Educational Schools

Feedback and Going Forward

- Feedback has been very positive. Teachers like that the pack is:
 - Flexible to use e.g. school clubs or as part of a class
 - Comes fully assembled
 - Allows pupils to use scientific equipment
 - Compliments the Curriculum for Excellence
- Going forward, we hope to:
 - Get more schools involved in the citizen science programme
 - Add more features to the website



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John Ferguson, Acting Faculty Head of Science, St John Ogilvie HS

Citizen Science in the Classroom



Working on the Clear the Air Pilot

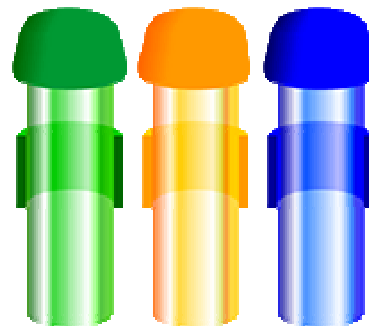
Curriculum for Excellence - Learning Outcomes

'Having taken part in practical activities to compare the properties of acids and bases,

I have demonstrated ways of measuring and adjusting pH and can describe the significance of pH in everyday life. SCN 3-18a



I can monitor the environment by collecting and analysing samples. I can interpret the results to inform others about levels of pollution and express a considered opinion on how science can help to protect our environment. SCN 4-18a



John Ferguson, Acting Faculty Head of Science, St John Ogilvie HS

Citizen Science in the Classroom



Clear the Air Citizen Science Pack – 2016

Funded pack with 35 diffusion tubes across two Science classes

- 30 given to pupils to take home
- 5 placed around the school to monitor
- Diffusion tubes will be sampling until the end of March



Observations as a Faculty Head

Class room observations :

- Pupils are active and engaged
- Discussion, questions and that practical element where pupils get to set up and monitor their school/ home.
- Further fuel class debates on issues which are now suddenly very real to the pupils

John Ferguson, Acting Faculty Head of Science, St John Ogilvie HS

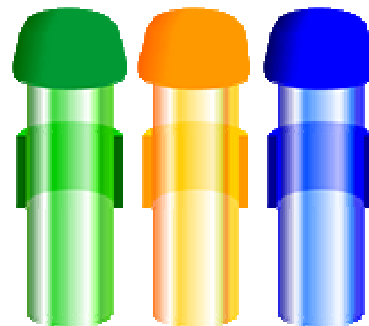
Citizen Science in the Classroom



Goals for the Future

- an exceptional privilege to help shape the minds of this country's future workforce
- teaching the future young men and women who will shape this country through science and technology

To do that, projects like Clear the Air, help to switch these young minds on to science subjects by making them enjoyable, practical and relevant to their lives.





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