



LONDON LOW EMISSION
CONSTRUCTION PARTNERSHIP

13th September 2016

SUPPORTED BY
MAYOR OF LONDON



Supported by



THE ROYAL BOROUGH OF
KENSINGTON
AND CHELSEA



Lambeth



City of Westminster



LONDON LOW EMISSION
CONSTRUCTION PARTNERSHIP

Industry Outreach

- Raising awareness of industry impacts on local air quality
- Encourage uptake of 'cleaner' mitigation measures
- Present case studies with cost benefit for low emission solutions

Testing

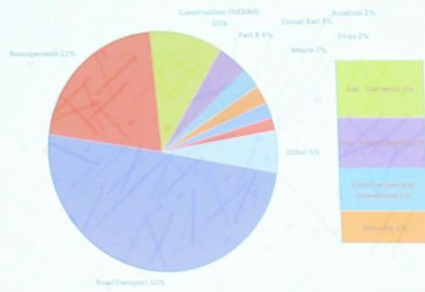
- Measure 'real world' emissions
- Emission reduction trials
- Improve pollution monitoring and quality of data

NRMM

- LEZ enforcement
- Policy support
- NRMM database

10:30	Welcome	Adam Webber
10.35	Review of previous meetings minutes	David Green
	INDUSTRY OUTREACH PROGRAMME	
10.40	Industry Outreach Meeting	Daniel Marsh
10:45	NRMM Seminar	Daniel Marsh
10:50	LLECP Website	Daniel Marsh
	ABATEMENT MEASURES PROGRAMME	
10:55	Abatement Projects	David Green
11:05	Generator PEMS	David Green
11:15	LLECP PhD	David Green
11:20	Improving Measurement	David Green
	LOCAL AUTHORITIES SUPPORT PROGRAMME	
11:25	NRMM Helpdesk	Daniel Marsh
11:30	NRMM Website update	Daniel Marsh
11:40	NRMM Officer Support	Daniel Marsh
11:50	Evelyn St Construction Logistics Plan Framework	Daniel Marsh
11:55	AOB / Date of next meeting	All
12:00	Finish	All

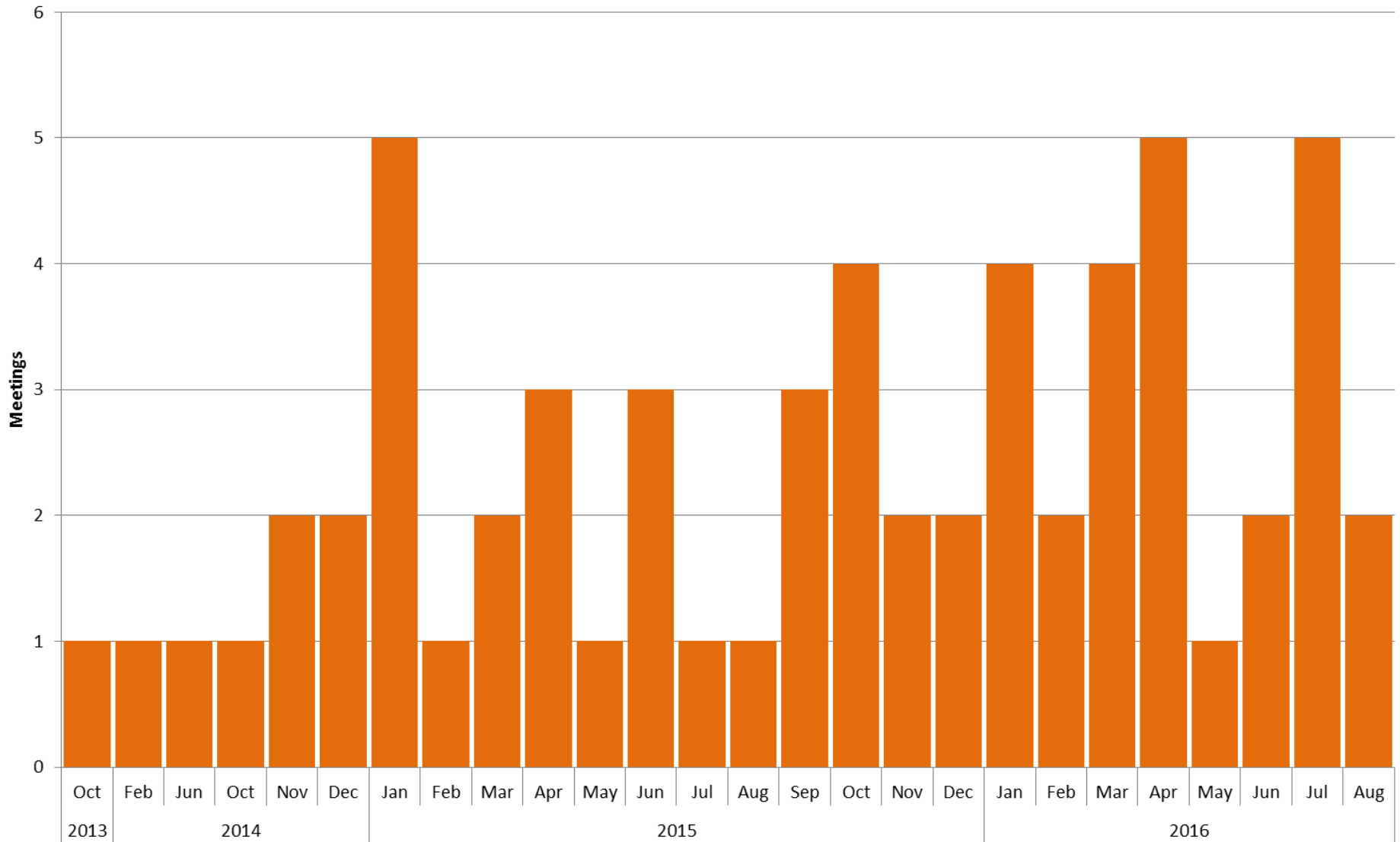
LAEI PM₁₀ emissions (t/annum) 2010



Industry Outreach Programme

26 th April 2016	Balfour Beatty/Lynch safety awareness day	Diesel Dynamics/EIC hybrid LPG/diesel conversion of a Doosan excavator	
28 th April 2016	Crossrail – Cathy Myatt and Ben Weldin	Setting up BC personal exposure measurement trial for World Environment Day	Case study to be disseminated across all contractors
3 rd May 2016	Lend Lease – Clare Amass Deptford Wharves	Review of onsite power generators for PEMS testing and NOx reduction trials	Not suitable for NOx using the AQMesh as too much road interference
7 th June 2016	Crossrail – Ben Weldin/Cathy Myatt	World Environment Day – LLECP and personal exposure trials feedback	Crossrail repeated the presentation to other contractors working on the project
10 th June 2016	Team Flo/NLE – Rob McCarthy	World Environment Day – Impacts of AQ from construction trials	
7 th July 2016	Richard Payne, Cummins, and Steven Jephcott, Aggreko	Masterclass in generators, Stage V engine update and issues around mitigation from manufacturers perspective.	Developed SOP for generator trials based on current EU PEMS test cycles
13 th July 2016	Sir Robert McAlpine, Paul Gregory, Justin Power and Lisa Ithurrealde	Broadgate : Reducing emissions associated with construction	Advised on ‘Best in class’ site mitigation and monitoring
19 th July 2016	Cleaner Air for all Londoners MAQF – City Hall	LLECP and NRMM presentation as part of the MAQF address	
20 th July 2016	Green Urban and Energy Saving Trust	Investigation into SCR DPF’s for use on gensets and setting of a test procedure that meets EST requirements.	Agreed NRMM PEMS test cycles for approval of GU SCR DPF
21 st July 2016	Speedy Services, Erith	Site assessment with Emissions Analytics for generator trials. LLECP presentation with project proposal	Dates now set to use PEMS to characterise emissions from generators and possibly other NRMM
24 th August 2016	Sir Robert McAlpine, Lisa Ithurrealde	Broadgate – project development Assessment of requirements to make this an exemplar project	
26 th August 2016	Mark Fell, TTR (TRL)	Evelyn Rd CLP, Lewisham Introduction to the project and current CLP progress	On-going collaboration with the LLECP for measurement and analysis

Count of Developer name



Years ▾ Date ▾

Cleaner Air For London – City Hall July 2016



NRMM Seminar for Industry

◎ Aims

- Raising awareness of 'best in class' dust and emission control
- Raising awareness of the NRMM LEZ policy requirements
- User training session for the NRMM register with direct feedback to the GLA and LLECP

NRMM Seminar for Industry

Potential speakers may include:

- GLA key speaker
- King's College London (LLECP)
- Borough enforcement officers
- Energy Saving Trust Environmental Industries Commission Carbon Trust
- Crossrail
- Construction Equipment Association
- Keltbray

NRMM Seminar for Industry

- Late November date
- Venue TBC (City Hall/KCL)
- Exhibitors arranged through the EIC
- Will be Eventbrite ticketing system for approximately 400 attendees
- Require developer contact lists from the boroughs as well as NRMM register



London Low Emission
Construction Partnership
Website

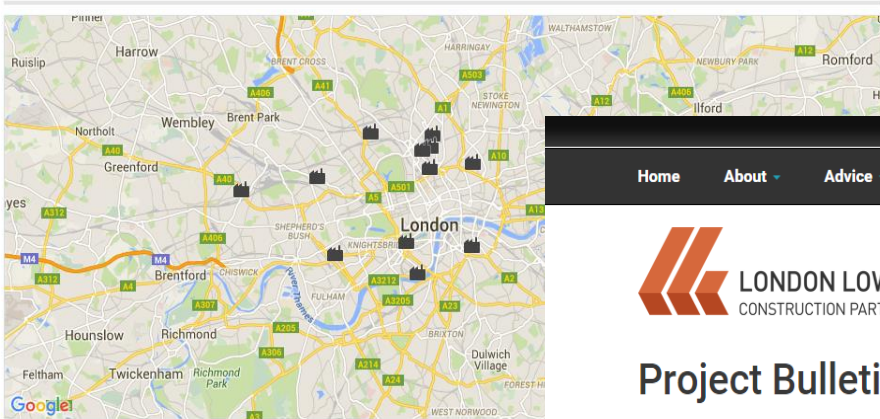
LLECP data platform

- Secure access to 'real time' data for developers, contractors and local authorities
- Rapid alert system to multiple recipients if boundary threshold is breached
- Historical exceedence data
- Graphing and statistical functionality for reporting
- CSV data download



SUPPORTED BY
MAYOR OF LONDON

Projects Map

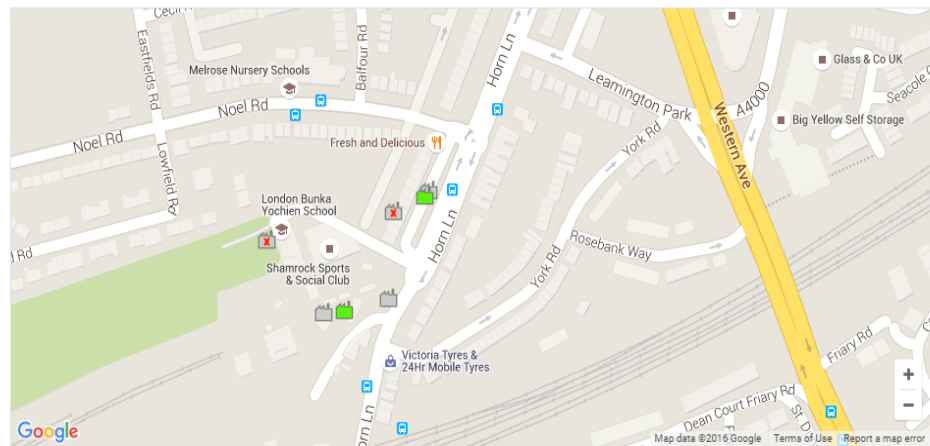


Argent - King's Cross Central



SUPPORTED BY
MAYOR OF LONDON

Project Bulletin Map





SUPPORTED BY MAYOR OF LONDON

Statistical tools

These flexible statistical tools are designed to allow statistical analysis of the LLECP database for up to four sites at a time.

First you must choose which pollutant and averaging period you want the statistics to be based on. There are two groups of statistics, those based on exceedences (e.g. the number of readings greater than a certain concentration) and more straightforward statistics such as mean and maximum reading capture rate. Tick the checkbox if you want your statistics to be based on exceedences.

Once you have made your choices, hit the 'next' button.

Select a pollutant: PM10 PM2.5 PM1 TSP

Select an averaging period: 15 minute hourly rolling 24 hour mean

or: data capture rate (based on valid hour readings)

Do you want exceedence statistics?

Next



SUPPORTED BY MAYOR OF LONDON

Graphing tools

Time Series Graphs & Wind Rose Plots

These flexible graphing tools are designed to allow graphical analysis of the LLECP database. You can either plot measurements from up to six species (pollutants or meteorological parameters) at one site, or compare measurements of one species at up to six different sites. You can select any period from one day to one year.

You can also choose either a time series line graph showing values over time, or a wind plot showing average pollutant values depending on wind direction.

Please be patient, requests for long time periods may take a long time to fetch, especially during busy periods.

Make your selection from the boxes below and hit 'fetch':

Time Series Graphs

Select a site: Fetch

OR Select a species: Fetch

Wind Rose Plots

Select a site: Fetch

OR Select a species: Fetch



NRMM Seminar - 18th March 2016

In July 2014 the Mayor of London released a supplementary planning guidance (SPG) for The Control of Dust and Emissions during Construction and Demolition which aims to manage emissions of particulate matter (PM) and nitrogen oxides (NOx) from construction and demolition activities across major development sites.

The SPG also outlined the new emission standard requirements for the world's first low emission zone (LEZ) for non-road mobile machinery (NRMM) which came into effect on September 1st 2015.

The role of London boroughs in implementing this guidance is being supported by the Mayors Air Quality Fund in a number of ways; one is through training and dissemination events organised through the London Low Emission Partnership (LLECP).

London Low Emission Construction Partnership (LLECP)	Dr David Green Senior Research Fellow, KCL
The Impacts of Construction Activity on Air Quality in London	Gary Fuller, Senior Lecturer, KCL
Construction, Planning and Guidance	Stephen Hedley, KCL
Air Quality Policy	Oliver Lord, Air Quality Manager, GLA
Non Road Mobile Machinery Register	Daniel Marsh, Senior Air Quality Analyst, KCL
Crossrail – case study	Cathy Myatt, Environment Manager, Crossrail
A boroughs perspective on working with the industry and enforcement	Kelly Wilson, Technical officer – Pollution Team, City of London
Retrofit technology and certification	Colin Smith, Certification Manager – Transport, EST
Discussion and way forward	All

<http://www.llecp.org.uk/NRMM-Seminar-March-2016>



LLECP Meeting Minutes

This section of the LLECP website is not for public access or linked through to the main site and is for archiving the presentations given at each of the LLECP group meetings for member reference. These meetings are held quarterly and are attended by representatives of the LLECP member boroughs, GLA, TfL and King's College London.

4th June 2014

10th July 2014

2nd October 2014

13th January 2015

Quick links

About

Read more about the project.

Advice

Health advice for construction dust.

Resources

Useful resources to download.

<http://www.llecp.org.uk/LLECP-Meeting-Minutes>

LLECP website

Google analytics for previous 12 months up until September 1st 2016

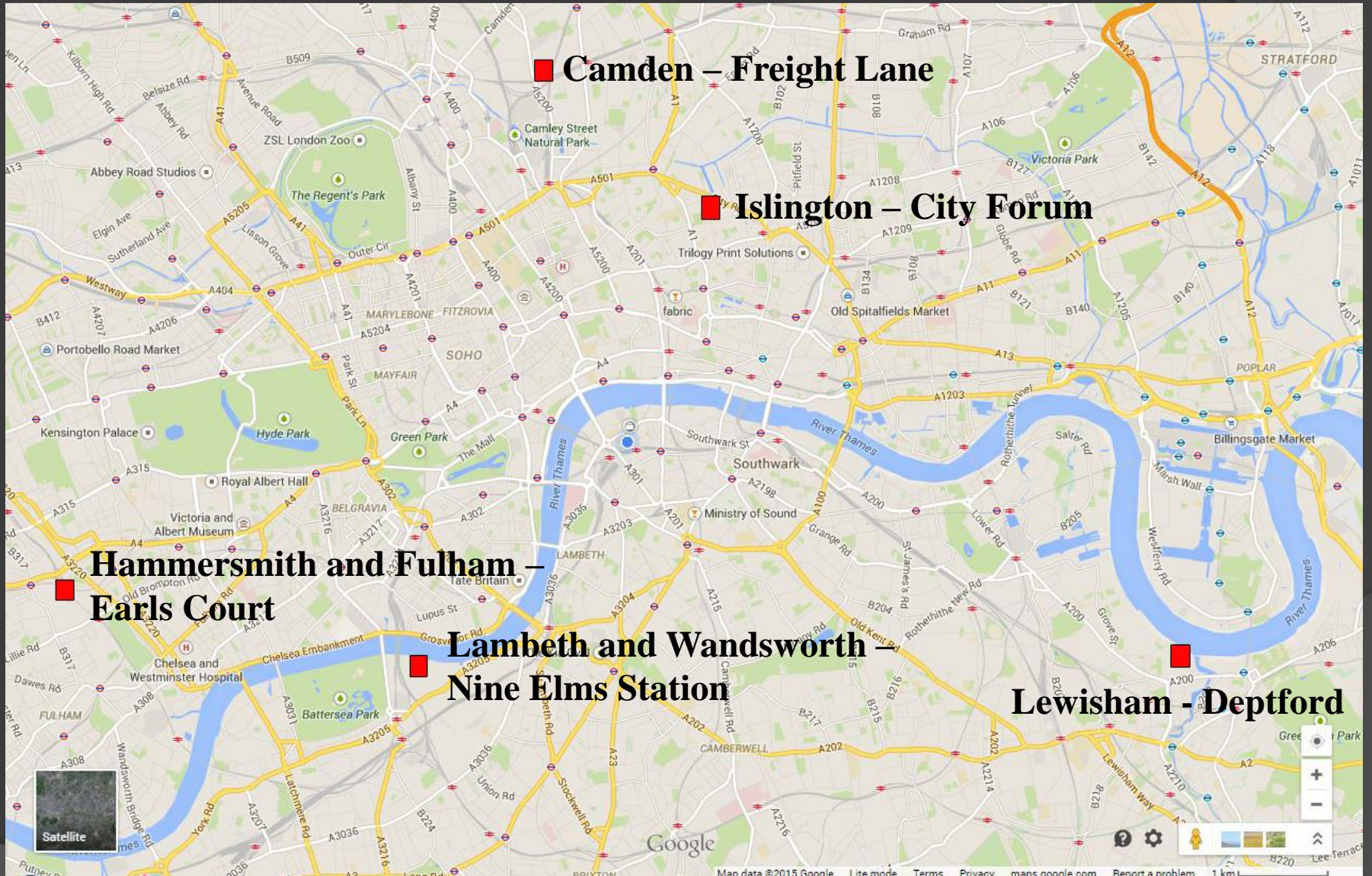
- 2,872 Sessions
- 2,095 Users
- 6,158 Page Views
- 2:12 Avg. Session Duration
- 71% new visitors

Needs new content (case studies) and another social media campaign

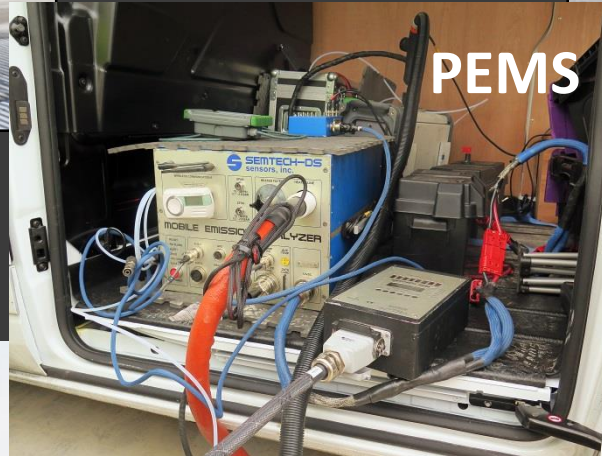


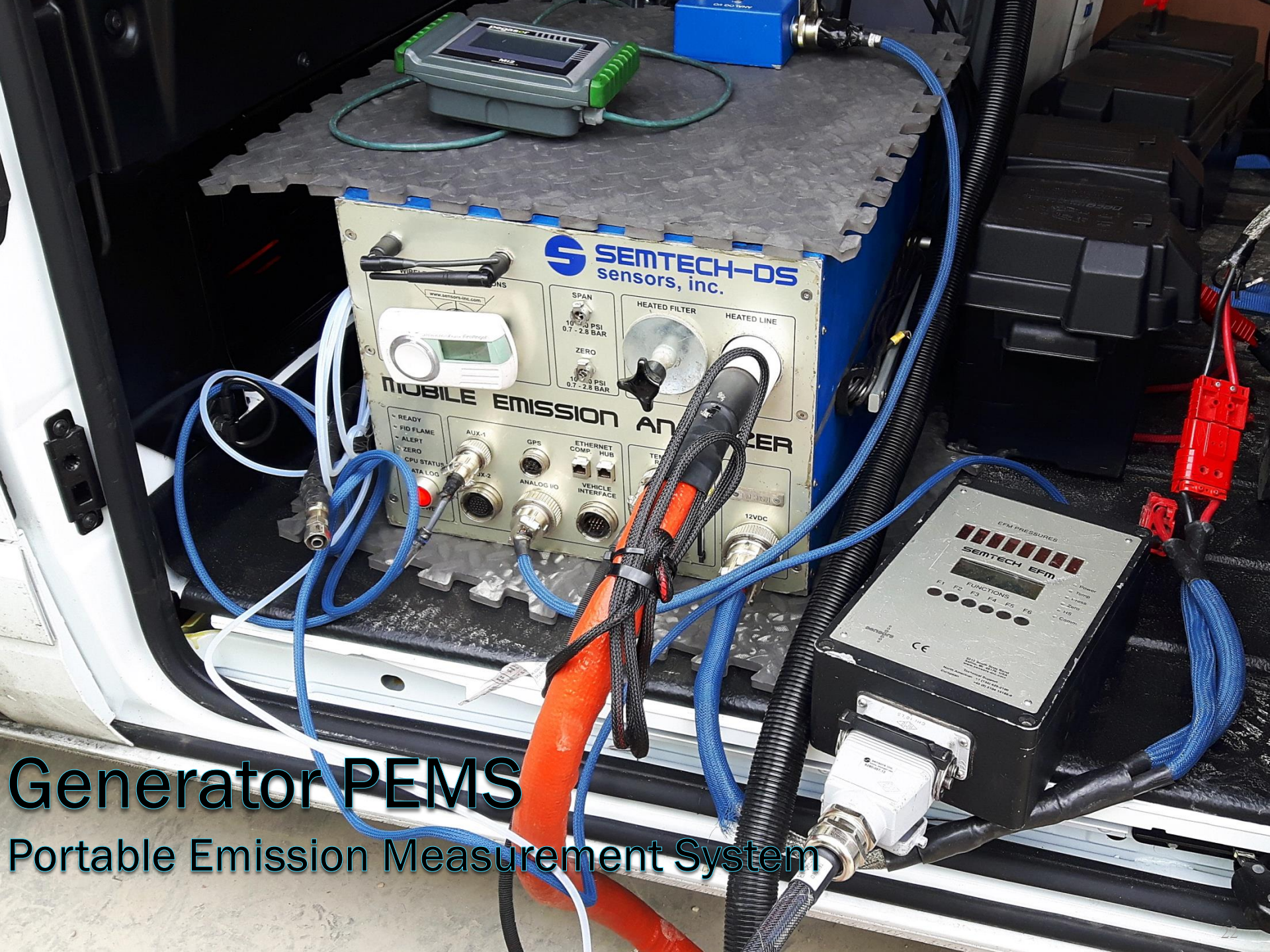
Abatement Measures Programme

Targeted construction sites



Emission reduction trials





Generator PEMS
Portable Emission Measurement System

Generator PEMS

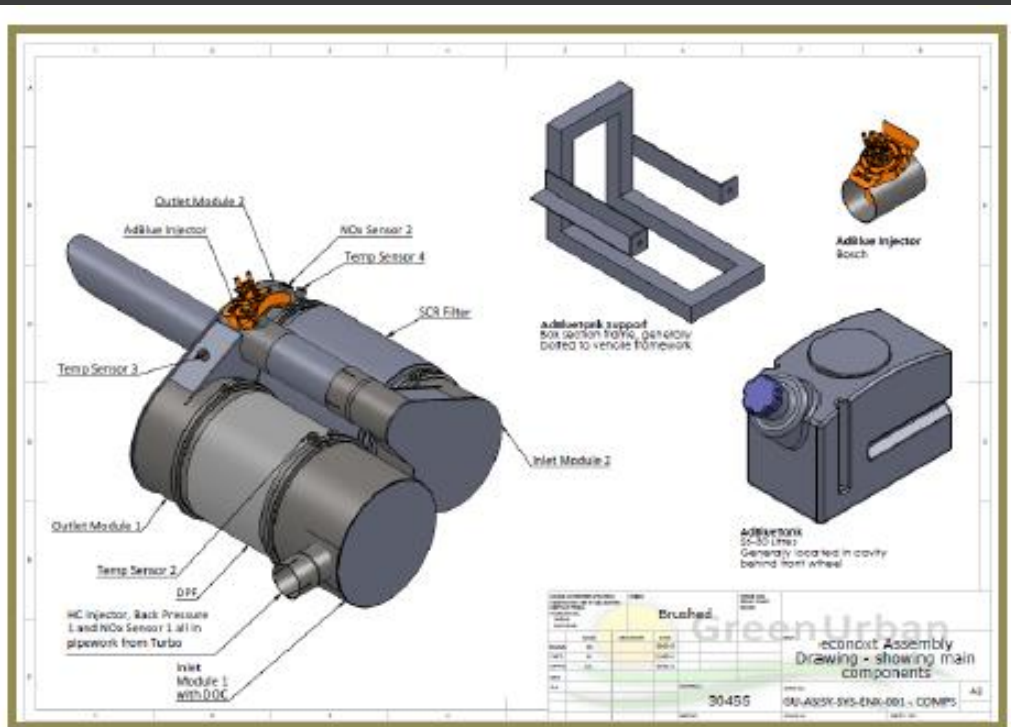
- ⦿ Working with Emission Analytics to develop new testing methodology
- ⦿ Characterising emissions from stage IIIA gensets of different power outputs under differing load profiles
- ⦿ Introduction of emission reduction technology
- ⦿ Direct feedback of results to GLA



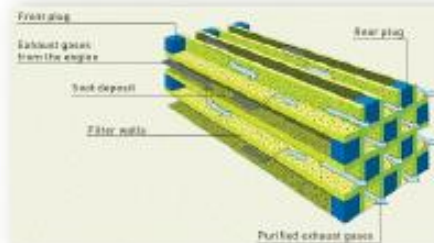
NRMM PEMS testing at Speedy Services power depot in Erith



Working with Green Urban



- Developing a new SCR DPF system specific to generators
- SCRT
 - DPF to reduce CO/HC & PM
 - SCR Technology to reduce NOx.



PEMS PhD



FindAPhD PHDS EVENTS FUNDING ADVICE EMAIL UPDATES

Home > PhDs > Characterising non-road mobile machinery emissions through portable emissions testing and emissions inventory development

Share this page: [f](#) [t](#) [G+](#) [+](#)

Characterising non-road mobile machinery emissions through portable emissions testing and emissions inventory development

King's College London | Health Schools | London | United Kingdom

[Dr Green](#)
[Dr Beevers](#)

Friday, April 29, 2016

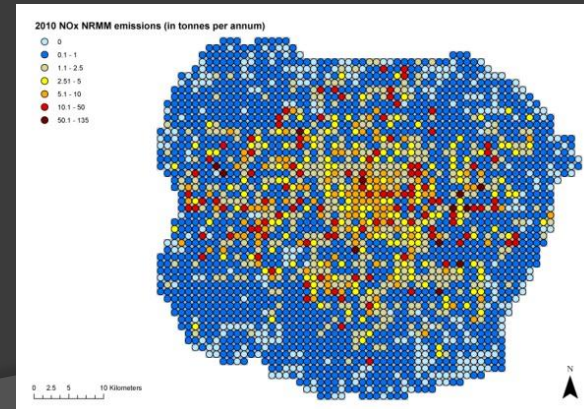
Funded PhD Project (Students Worldwide)

[Email Now!](#) [Apply Online](#) [Back to Results](#)

[View all PhDs at King's College London](#)

[Find out about studying in United Kingdom](#)

[Related PhDs](#)

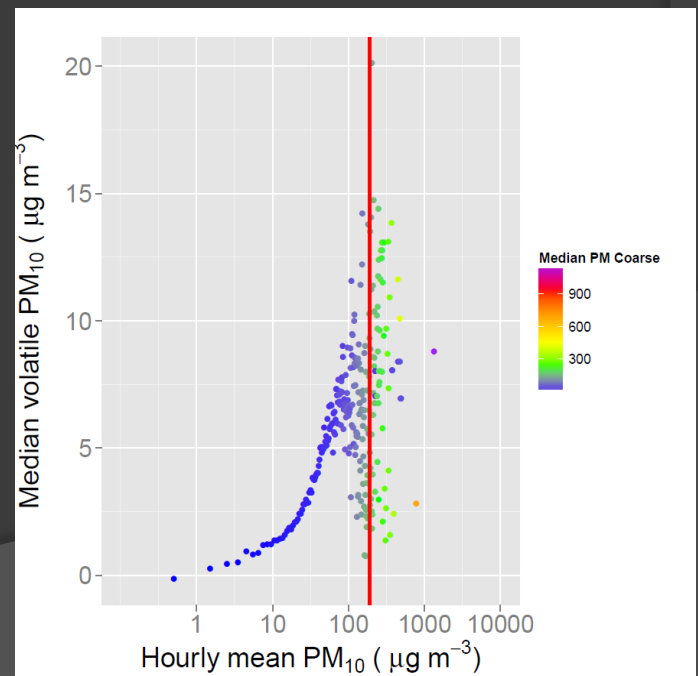
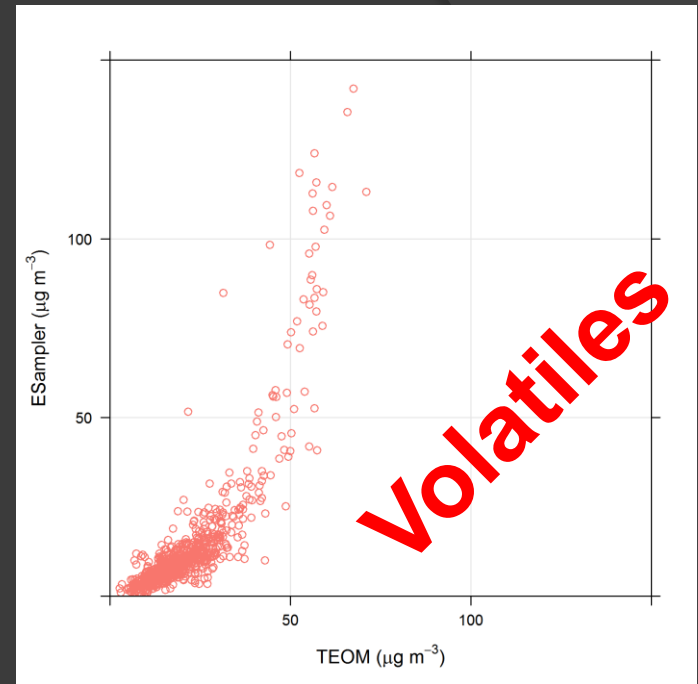
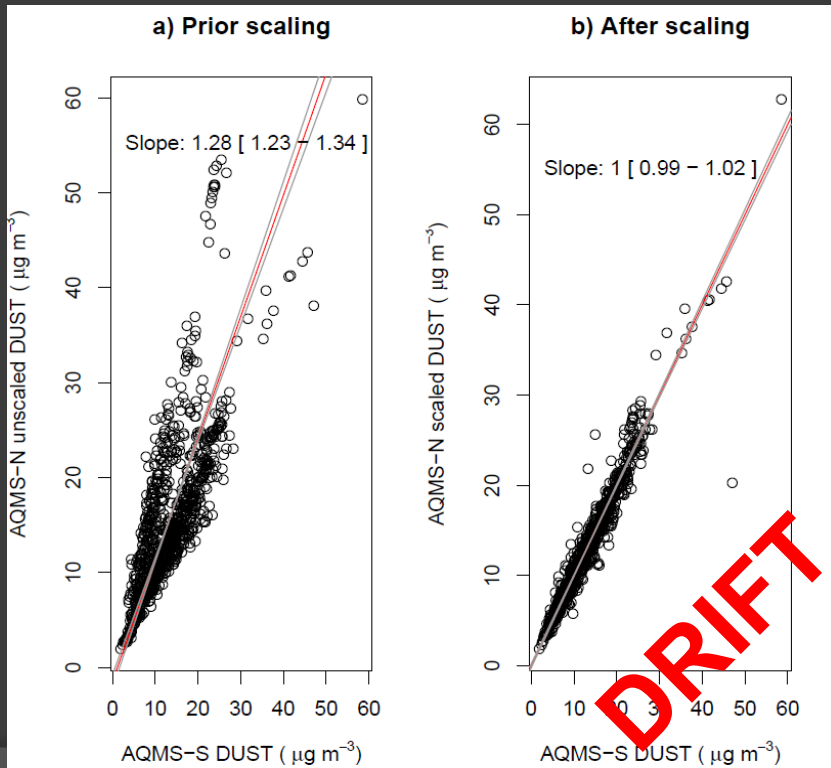
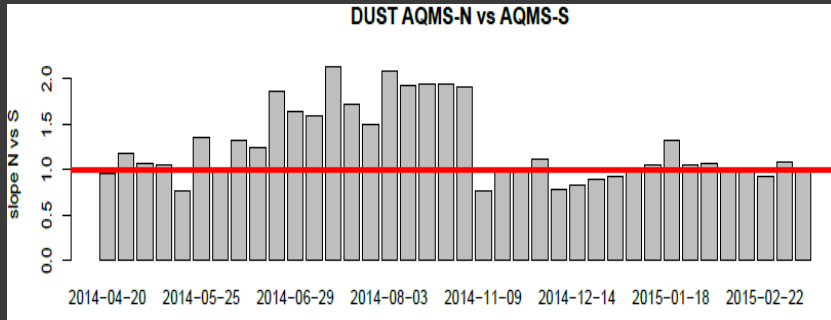


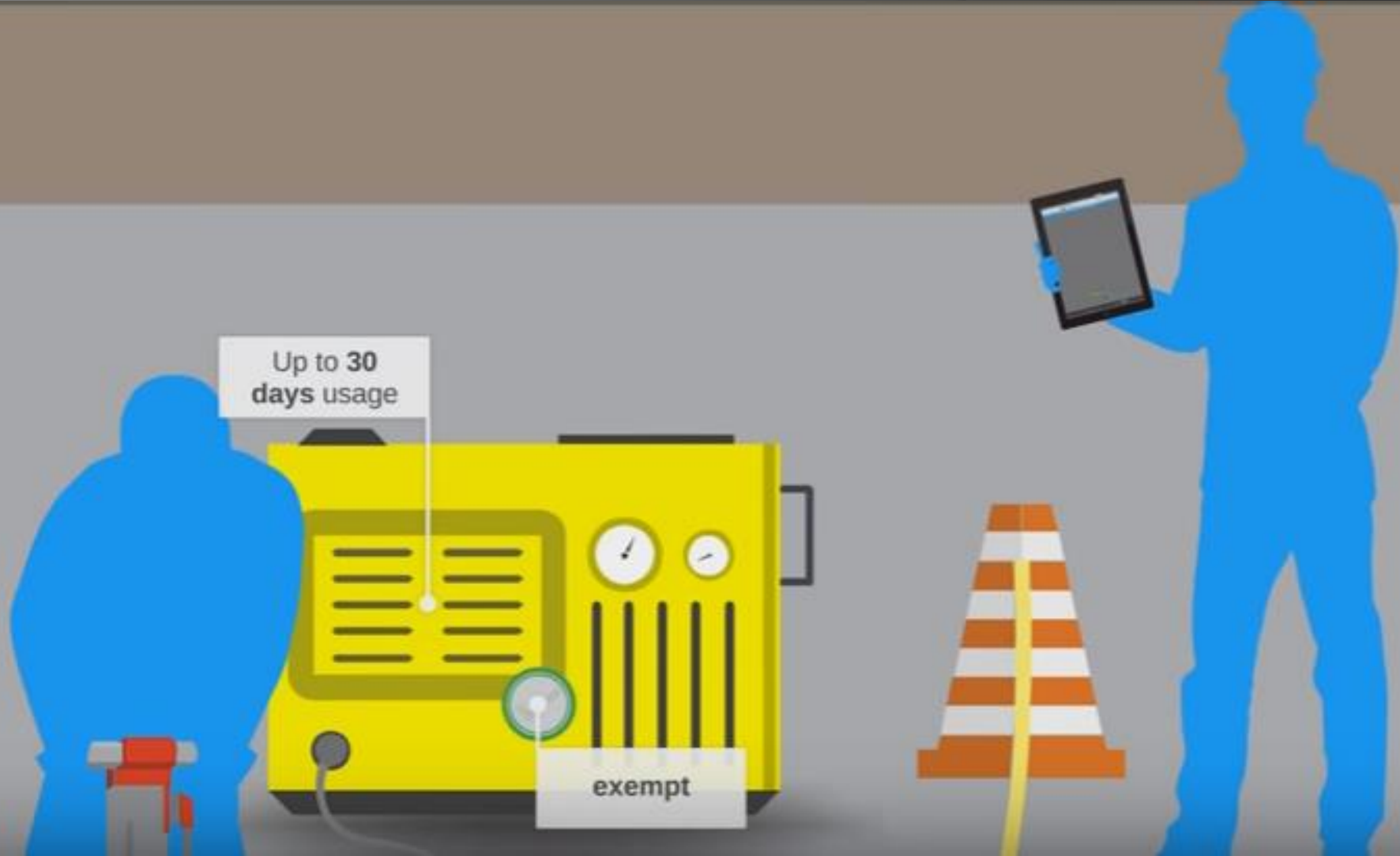
Improving Measurement



- AQMesh
- Testing small sensor technology
- Co-located with reference and specialist measurement equipment to give a better understanding of performance in real world conditions
- Advantages:
 - Small and easy to locate, no external power supply required
 - Measures a range of pollutants using 'chemical' sensors
 - Data transmitted back to central database every hour

PM Measurements





LOCAL AUTHORITY SUPPORT PROGRAMME

NRMM Helpdesk

- Support for local authorities, developers and contractors using the NRMM register
- Enquiries submitted through nrmm.london
- Online support only for industry (no phone)
- Responding within a reasonable time
- 2016 - 154 enquiries so far
- 73% are IT based, 27% Policy based

NRMM Website – Sept 2016

- NRMM LEZ Policy started in September 2015
- Good uptake by industry with 396 developments registered but 285 still have no entries
- 570 pieces of NRMM registered
- Exemptions: 16 accepted, 4 automatic, 5 pending and 19 rejected
- 36 registered retrofit NRMM

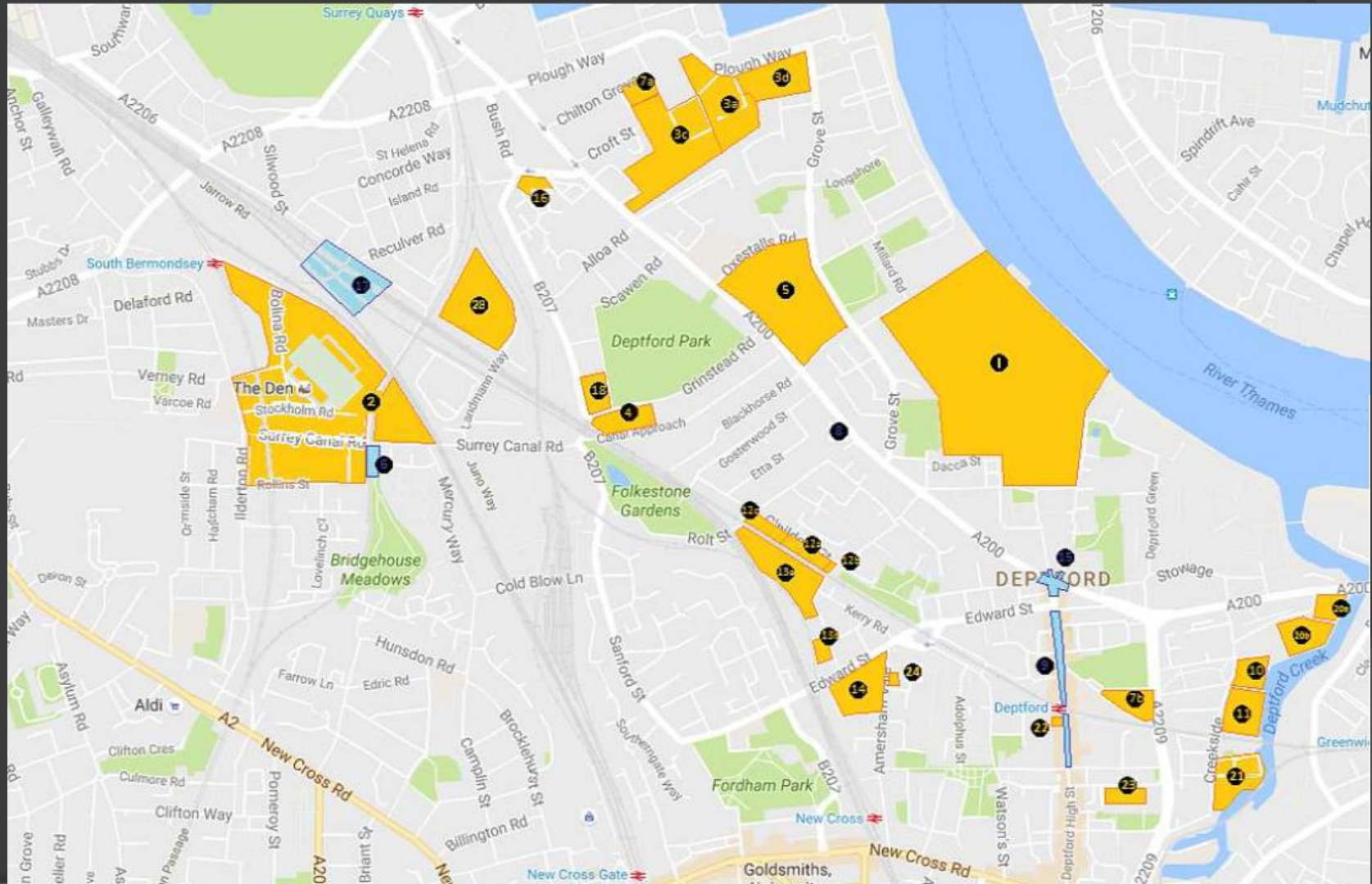
NRMM Website

- ⦿ Due to be updated based on wider industry user feedback than first release
- ⦿ Will include FAQ and NRMM training resources
- ⦿ Allow site/company overview, search and data download functions
- ⦿ Enforcement officer support tools
- ⦿ Better reporting tools
- ⦿ Improved system self-checks for non-complaint plant, registered developments with no NRMM, duplication etc

NRMM officer support

- MAQF funded projects for 4 cross-borough NRMM enforcement officers
- Lead boroughs are Merton and Barnett
- Supported by the LLECP through development of web-based tools that link back into the NRMM register
- Allows for 'desktop' site assessment and 'on the ground' audits
- All local authorities need to request access

Evelyn St Construction Logistics Plan



Evelyn St Construction Logistics Plan

A CLP has been produced to:

- ⦿ Reduce the impact of pollution from traffic congestion
- ⦿ Raise standards of safety on the roads (incl. cycle safety)
- ⦿ Reduce the effect of construction activity on highway efficiency (i.e. re-timing; coordination; consolidation etc.)
- ⦿ Improve cost effectiveness of construction logistics activity
- ⦿ Switch materials from roads to other transport modes (e.g. greater use of rail and waterborne freight movements)
- ⦿ Development of measures to further reduce the impact of logistics

Evelyn St Construction Logistics Plan

The project will specifically address;

- Planning and conditioning (inc NRMM)
- Information gathering
- Site inspections and audits
- Driving site compliance
- Site recognition
- Outcomes and impact study

Any other business?

- Date of next meeting