

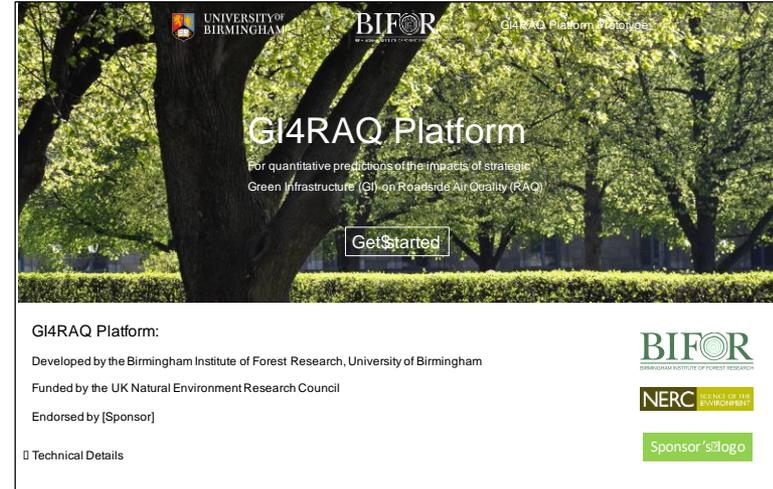
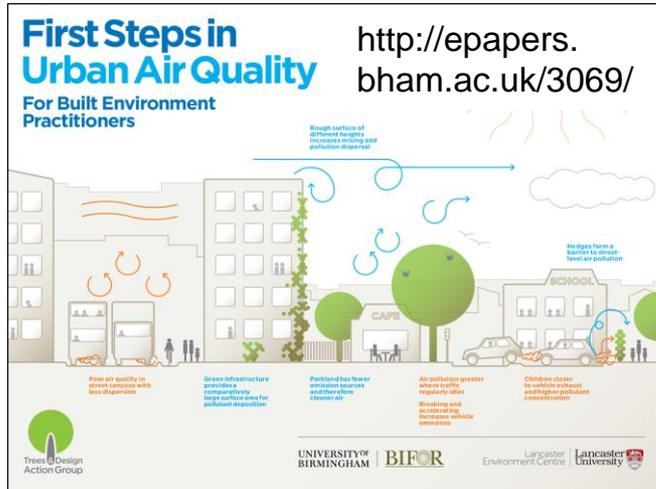
The role of strategic green infrastructure in reducing exposure to road transport pollution for improved public health

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Developing a quantitative 'GI4RAQ' platform

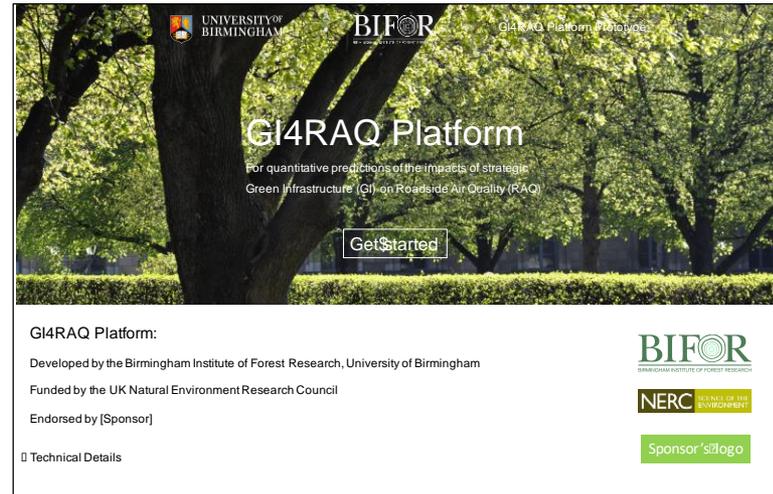


'GI4RAQ' = Green Infrastructure for Roadside Air Quality

Quantitative prediction of benefits/disbenefits at planning, building on the qualitative but robust steers of First Steps



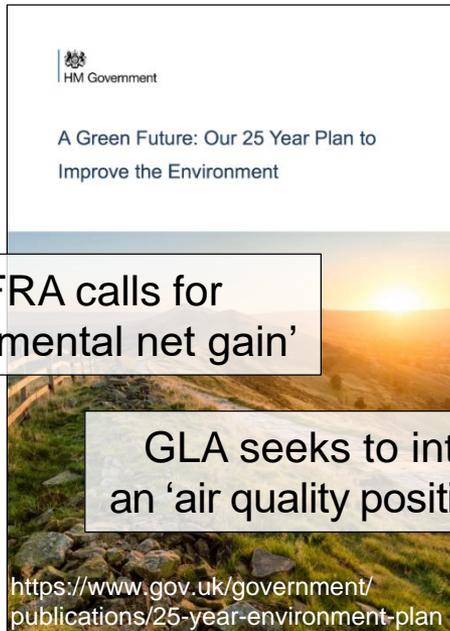
Developing a quantitative 'GI4RAQ' platform



Aimed at informing 'pre-app' discussions, we are co-designing the platform with environmental consultants & local authority officers

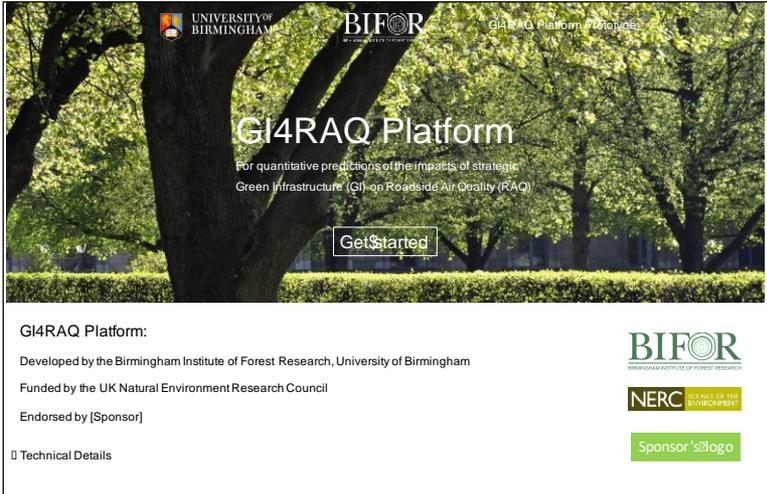


Unblocking a UK planning policy impasse



DEFRA calls for 'environmental net gain'

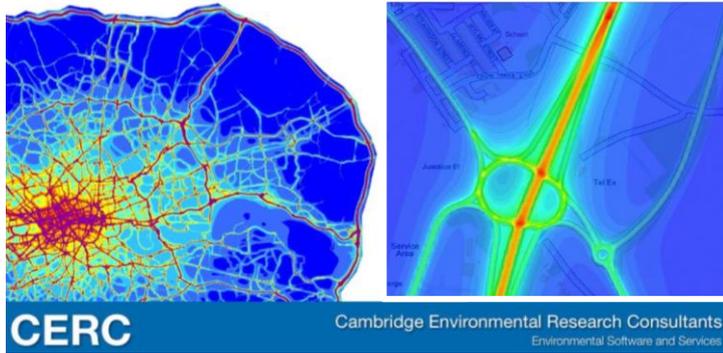
GLA seeks to introduce an 'air quality positive' policy



Local authorities can't implement a new policy until they have a means of assessing compliance BUT commercial developers are reluctant to develop one until a policy is in place securing a return on their investment



Unblocking a UK planning policy impasse

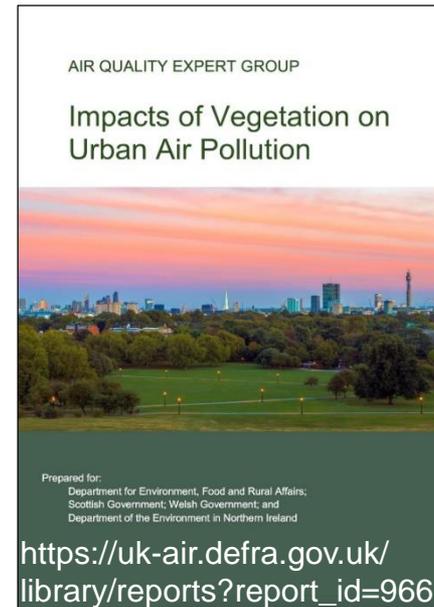


CERC & Ricardo are not only environmental consultancies, but also developers of commercial platforms widely used by local authorities

To stimulate further innovation (in all sectors), the GI4RAQ platform will be open-source; and to maximise use, it will be freely available



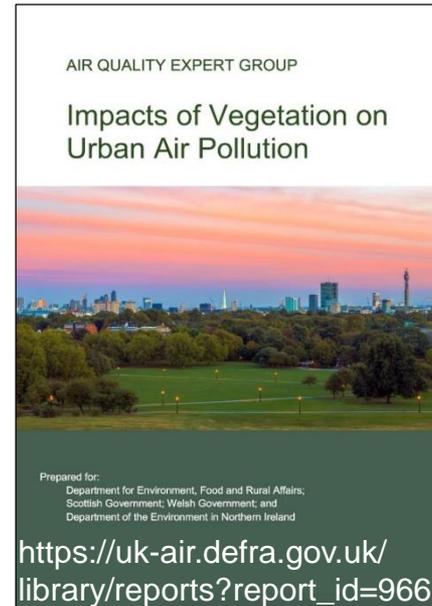
Including dispersion – not just deposition



At the scale of realistic urban planting schemes, deposition to vegetation typically removes just a few percent of PM and NO₂



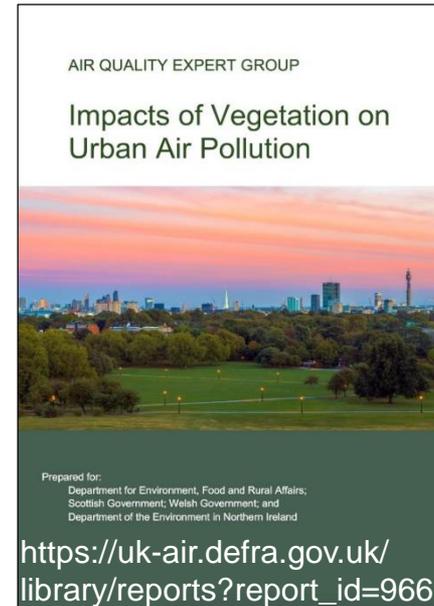
Including dispersion – not just deposition



..and vegetation makes a relatively small contribution to total urban emissions of volatile organic compounds (VOCs)



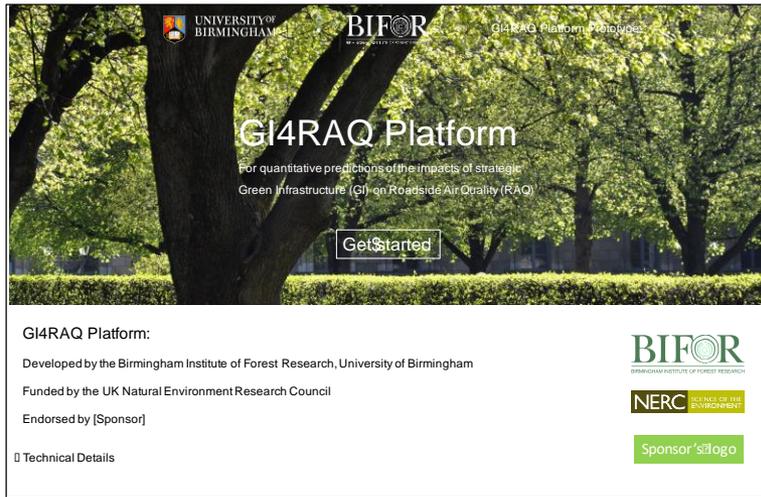
Including dispersion – not just deposition



Dispersion has much more leverage on roadside air quality:
vegetation barriers can halve concentrations in their immediate wake



Current work with Transport for London



The screenshot shows the homepage of the GI4RAQ Platform. At the top, it features the logos for the University of Birmingham and BIFOR (Birmingham Institute of Forest Research). The main heading is "GI4RAQ Platform" with a sub-heading: "For quantitative predictions of the impacts of strategic Green Infrastructure (GI) on Roadside Air Quality (RAQ)". A "Get started" button is visible. Below the main content, there is a section titled "GI4RAQ Platform:" followed by text: "Developed by the Birmingham Institute of Forest Research, University of Birmingham", "Funded by the UK Natural Environment Research Council", and "Endorsed by [Sponsor]". Logos for BIFOR, NERC (Natural Environment Research Council), and a "Sponsor's logo" are also present.

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Six months secondment to: build evidence-based understanding of GI4RAQ; and incorporate this into their 'Healthy Streets' approach



Current work with Transport for London



UNIVERSITY OF BIRMINGHAM BIFOR
GI4RAQ Platform Prototype

GI4RAQ Platform

For quantitative predictions of the impacts of strategic Green Infrastructure (GI) on Roadside Air Quality (RAQ)

Get started

GI4RAQ Platform:
Developed by the Birmingham Institute of Forest Research, University of Birmingham
Funded by the UK Natural Environment Research Council
Endorsed by [Sponsor]

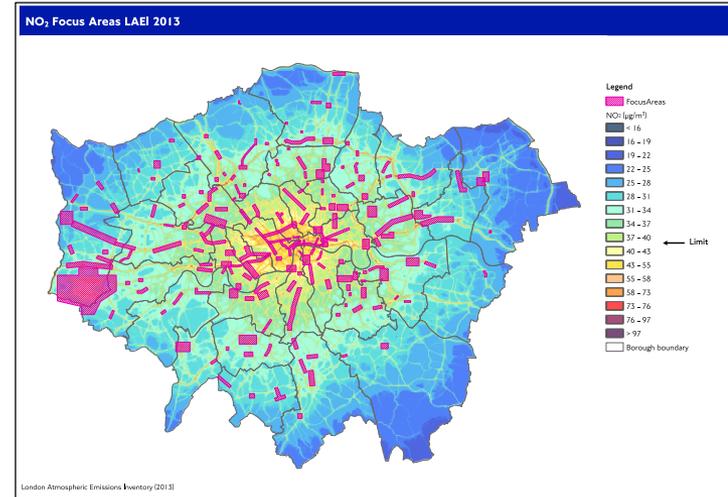
Technical Details

BIFOR
BIRMINGHAM INSTITUTE OF FOREST RESEARCH

NERC
NATURAL ENVIRONMENT RESEARCH COUNCIL

Sponsor's logo

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TfL are focussing efforts to improve air quality where they are most beneficial for population-wide public health & health equality

Health Impact = Concentrations + Exposure + Vulnerability



Conclusions

[The best way to improve air quality is to reduce *emissions*; and green infrastructure is not 'always good for air quality']

Strategic green infrastructure can much reduce *exposure* to road transport pollution and improve health outcomes

We are developing a quantitative GI4RAQ platform, building on 'First Steps in Urban Air Quality' - and new GLA guidance

Green infrastructure is resolutely good for climate resilience (SuDS & UHI mitigation), wellbeing, biodiversity and business

