

Innovation challenge series:

How do we solve
a problem like...

Air quality in Westminster



Innovation in Westminster

A problem clearly defined is a problem easier to solve. Across the UK, local authorities are working hard to improve air quality, protect public health and create healthier places to live, work and visit. But some sources of pollution are still overlooked.

Westminster brought IPEC the shared challenge for all local authorities: how to reduce PM2.5 emissions from commercial kitchens. Through IPEC's cohort programme, the council was able to explore an innovative solution, test it in live settings and generate evidence that other local authorities can learn from.

The cohort programme showed measurable reductions in PM2.5 across several commercial kitchen environments, including an indoor reduction of up to 79.7%. It demonstrates how innovation can help councils tackle complex air quality challenges, reduce risk before wider investment and accelerate progress towards cleaner, healthier communities.

This is a model other local authorities can use. By sharing Westminster's experience, IPEC can help councils build on what has already been tested, avoid starting from scratch and take practical steps towards improving air quality in their own places.

Overview

Working with Health and Wellbeing 360, Westminster piloted air purification technology across five commercial kitchen settings. The project monitored air quality and tested whether the technology could reduce harmful PM2.5 emissions generated during cooking. The Pilot delivered great results. Indoor and outdoor PM2.5 emissions showed a reduction across the sites monitored, with the highest reducing by 79.7%. The results demonstrate the potential of innovative technologies to reduce particulate matter generated through commercial cooking. While outdoor quality is influenced by many different factors, the project conveys valuable evidence on an area that has been underexplored.

Through IPEC, other local authorities can build on Westminster's experience, test similar solutions, and accelerate their own air quality ambitions.

Could your area face a similar challenge?

Commercial cooking emissions are often overlooked, yet they can make a significant contribution to PM2.5 levels in urban environments. This approach may be relevant if your area has:

- A high concentration of restaurants, hotels or commercial kitchens
- Air quality management areas or persistent PM2.5 concerns
- Busy town centres where cooking, transport and other emissions overlap
- Public health ambitions that require action beyond transport emissions
- A need for stronger evidence before investing in new air quality interventions



Why it matters

Poor air quality has a direct impact on people's health. Fine particulate matter, known as PM 2.5, can enter deep into the lungs and bloodstream, contributing to conditions such as asthma, chronic obstructive pulmonary disease (COPD), heart disease and other serious illnesses. Improving air quality matters because it:

- Protects public health by reducing exposure to harmful pollutants
- Reduces pressure on healthcare and public services
- Improves productivity by reducing illness-related absences
- Helps local authorities meet environmental and sustainability targets
- Creates healthier and more attractive places to live, work and visit

Commercial cooking emissions are estimated to account for around 60% of PM2.5 emissions in some urban settings. Despite this, many councils focus their air quality efforts on transport and other pollution sources, with relatively little policy or strategy aimed at reducing emissions from commercial kitchens.

As councils continue to look for new ways to improve air quality, commercial cooking presents an opportunity that cannot be ignored.

Westminster Problem Statement

How do we tackle PM2.5 emissions from commercial kitchens to improve air quality and protect public health?

Westminster City Council recognised that commercial cooking emissions are a significant contributor to poor air quality, but one that often receives less attention than other sources. Through IPEC, Westminster wanted to explore whether innovative technology could help reduce these emissions and contribute to cleaner air across the city.

Why should Local Authorities work with IPEC?

Start with the right problem - The best solutions begin with a clear understanding of the challenge. IPEC helps local authorities define problems properly.

Access innovation that already exists - Many of the solutions councils' need are already being developed by innovative businesses. IPEC helps bridge the gap between local authority challenges and market expertise.

Test before you invest - Piloting solutions in real-world conditions allows councils to generate evidence, understand impact and reduce risk before committing resources.

Reduce barriers to delivery - From challenge definition to market engagement, IPEC helps councils navigate the innovation process and avoid common blockers.

Learn from others - Councils often face similar challenges. Through IPEC, local authorities can build on lessons already learned elsewhere rather than starting from scratch

Create solutions that can scale - Successful pilots provide a foundation for wider adoption, helping councils move from individual projects to long term improvements.

We did this with Westminster. We can do it with you

Westminster City Council worked with IPEC to explore an often-overlooked source of air pollution and test an innovative solution in relevant environments.

The project delivered measurable reductions in PM2.5 levels and demonstrated how councils can take practical action to address emissions from commercial kitchens. Local authorities across the country are facing similar air quality challenges. IPEC can help you define the right challenge, engage with innovative suppliers, test solutions in the real world and move from ideas to implementation with greater confidence and less risk.

You do not need to start from the beginning. Westminster has already helped demonstrate what is possible. Through IPEC, we can help your authority take the next step towards cleaner air and healthier communities.





Do you have an innovation challenge that you would like to share, get in touch to see how we can share or help with your challenge.

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