

## Q&As

Liz Bates:

**Q: Is there a good graph we can show to people which will demonstrate / 'scare ' them in terms of indoor pollution from stoves? People are so very attached to stoves and get a sense of wellbeing from fire / radiant heat etc .. need to be harder hitting about harms - with good visuals.**

I'm not aware of a specific graph that is routinely used in official government publications or similar but there has been a lot of academic research in the area and there are various studies published on-line that contain graphs of measured indoor air quality during stove use. Matthew Clark from Hertfordshire County Council gave a very interesting talk at the event in Leicester last year and as I recall he did show some graphs of monitoring undertaken in homes, but clearly every situation is different depending on the type / age of the stove, quality / moisture content of the fuel, how well maintained the appliance is and how well ventilated the home is. In Bradford we tend to use the widely available image that shows relative emissions from different types of appliances when we speak to people about solid fuel burning. It is available in the [Chief Medical Officer's Annual Report 2022](#) if anyone needs it.

**Q: How effective do you find the powers for Smoke Control Area enforcement are?**

I'm not currently involved directly with Smoke Control Enforcement myself but like any legislation the powers are only as effective as the amount of resource that can be given to enforcing them and in a situation where resources are spread thinly it is not always seen as a major priority. I think one of the issues is that in the past the Smoke Control Areas were to some extent self-enforcing as the generations that were home occupiers when they were first introduced were aware of the legislation and what they could and couldn't burn in their homes. As time has gone by, we have a new generation of homeowners that are less aware of the legislation and more socially encouraged to burn. There is a need to re-educate people about what is and isn't allowed and that is the recent approach we have taken in Bradford through our billboard and radio advert campaigns. I think SCA enforcement has similar challenges to anti-idling enforcement so if you can educate the masses, who will generally comply if aware, you can then focus enforcement and your limited resources on the minority who have complete disregard for the law.

**Q: Are there any plans for BCC to work towards (if not achieve) WHO guidelines?**

In Bradford we have a particulate reduction strategy which means we are trying to actively address local sources of particle pollution whilst still trying to gather more intelligence about

the general concentration of particles across the district and their sources. Once we have a better understanding of the main sources of particulate pollution in Bradford and how much influence we can have on them, we will be in a better position to set aspirational local targets for the future. Much of the PM2.5 in Bradford District appears to be regional in nature so it will take strong national policies to deliver the WHO guidelines across the UK, not just local action.

**Q: What is the long-term plan as more vehicles reach compliance and money from the scheme reduces?**

That is obviously something that's at the forefront of our minds now and we're doing lots of work looking at that. Money is already starting to reduce and income's going down, but that's exactly what we were trying to achieve because that means we've got compliance.

So, I think in terms of how long the Clean Air Zone will be there, we're not sure right at the minute. We must have it for as long as we have exceedance. We've still got two little spots that are still not quite there just yet. But moving forward, we have put money in reserves to keep the team there for as long as the clean air zone needs to be there.

There will come a point in probably 2 or 3 years where that income will be getting quite tricky to handle and that's something the council's looking at now. What will happen with the Clean Air Zone? Very difficult to say now.

As I say, all I can say is for certain it needs to be there until we have compliance and for a year after we have compliance and then we'll have to prove it can exist without having to have it in place if we want to take it out. But local members may decide to keep it. We just don't know now and a lot of that will depend on what happens at elections that are obviously coming up soon.

So, in terms of long-term planning, it's something we are looking at and thinking about but no firm plan identified yet. As a team, because we've now branched out into other areas such as climate action planning, we've got some resilience there and we are building other skill sets around this and data analytics that will be useful to the local authority beyond the CAZ.

**Q: How much income has the Clean Air Zone generated:**

The Clean Air Zone income is made up of sort of three different bits. So, there's the income that people pay to come in and bring their vehicle in, so they stay legal. There's the income that comes in from the fines that we issue to people that come in and they get paid straight away. And then there's income that comes in from the chasing up of fines and going through the court process, etc. So, you've got sort of those three bands.

I should also mention as well that we must make a payment to DVLA for the vehicle records that they process, etc. So, there's a bit of a balance there.

The gross income for the first three years has levelled out at about 8 million pounds income a year. Now that sounds like a big amount of money, which is why people get very excited about it around the council.

But actually, to run it costs about 2 million pounds a year in staff time, so the net income is not a massive amount of money and we have re-invested a lot of it already, as you've seen back into the schools scheme, etc. A lot of it has gone away into reserves to pay for the future ongoing operation of the team as compliance increases and income drops off.

We're at about three lots of 8, so about 24 in profit. It's not about profit, but that's the income that's come in and that will be used to sustain the Clean Air Zone for as long as we feel it's needed to protect health and anything that is left will have to be reinvested into air pollution in Bradford.

So, it sounds like a huge income generator, but it's not in terms of the bigger picture stuff.

**Q: If you could turn back the clock, would you still go on the journey:**

I think a lot of that depends on who you're asking. So, you're asking me personally as an Air Quality Officer and I certainly would come on the journey again. It was a huge decision for me professionally to jump across from my previous role into this one full time. I was already working at Bradford part time, but to move across into this was a huge decision for me.

But it's been an absolute blast, if I'm honest. I've really enjoyed it. As I say we've had quite a lot of flak on the way. I'm sure if you asked the politicians of Bradford how they feel about it, they might have a different view. But for me, it has delivered what it was set out to do. It's improved air quality. It's making people's lives better and their health better and from a professional point of view, that is so satisfying.

You feel you've made a difference and achieved something in your career, and you leave a legacy behind of cleaner air quality for Bradford's people. So yeah, I think I would come on the journey again and I think there's been a lot of positives come out of it for Bradford and for the way we operate as a team. I think Bradford's environment generally will have that legacy for a long time going forward.

We might have got there without the charging zone, but I don't think we would have the stability we have now and the ability to do the climate action plan like we've done it. So, it will have knock on implications for the Bradford for a long time to come.

**Q: How does Smoke Control Area work integrate into the CAZ**

So, we have done some work on that in Bradford. We've had a couple of years where we've done a big campaign. Now, we haven't paid for that out of the clean air zone work now because we have another strand of work going on in Bradford now called the particle reduction Strategy, which was funded in the last but one round when the Air Quality grants were around, but we do link the two together.

We have done a couple of big publicity campaigns where we've done big billboards at the side of the road advising people about the legislation around smoke control areas and we have done going into communities and we've taken stuff like, fuel that they can and can't burn and that kind of thing to show them and spoke to people about the use of their stoves, etc.

We did a research project with Sheffield University about the psychology of why people have stoves and why they burn. Which was interesting in terms of the demographics of people that burn and what their other priorities in life are. Sometimes the understanding is not quite there

between, what the impact of burning that wood, which often they see as a good thing for helping carbon, is having on their personal health and that of the families and that of the neighbours around them.

So yeah, we're doing quite a lot in that area as well and it is linked obviously straight through to the Clean Air Zone work as part of our ongoing public engagement and bigger messaging around health and air quality.

Tom Adams

**Q: Do smoke control areas actually work? And is there any evidence of people reducing their burning as a result of smoke control area implementation?**

According to a consultation undertaken by Defra in 2018, local authorities have advised that awareness of and compliance with SCA orders is low, and that few people make the link between domestic burning and air pollution. Therefore, education and engagement are extremely important supporting tools to reduce and improve domestic burning practices.

We've looked at the most recent national emissions inventory data and specifically at households inside and outside SCAs and the proportion of those who said they do/do not burn wood and burn coal. Wood burning inside an SCA is half of that outside an SCA and coal burning inside an SCA is about two thirds of that outside an SCA. Therefore, these data show that people are burning less inside SCAs, but there are likely to be other factors also impacting these behaviours.

**Q: Re SCA modelled outcomes, why do some urban areas show significant PM reduction (~30%), but others show no improvement (0%)? Given that all urban areas are in Hertfordshire and modelled under Scenario 1**

Scenario 1 looked at the impacts of applying smoke control areas in all urban areas of the UK. The baseline includes all current SCAs and these areas therefore do not see an additional impact from Scenario 1. For example, Stevenage doesn't see any reduction for Scenario 1 as its urban area is already assigned as a smoke control area.

**Q: The changes to the legislation have removed the defences of using an exempt appliance or authorised fuel. Does this effectively ban solid fuel burning in Smoke Control Areas altogether or is there any guidance / advice on how local authorities now enforce the controls within an SCA?**

In a smoke control area, you cannot release smoke from a chimney, and you can only burn authorised fuel, unless you use an appliance approved by Defra (also known as an 'exempt appliance' or 'Defra approved appliance'). Lists of authorised fuels and appliances can be found here: <https://www.gov.uk/smoke-control-area-rules>

Unauthorised fuels, such as wood, can only be burned in exempt appliances such as some boilers, cookers and stoves, and you must only use the types of fuel that the manufacturer says can be used in the appliance.

Guidance for local authorities in England on how to apply the smoke control area rules is available here: <https://www.gov.uk/government/publications/smoke-control-area-enforcement-local-authorities-in-england>

**Q; How could LA's introduce Scenario 2 - stop all secondary burning? Presumably this would be separate to any SCA?**

Smoke Control Areas are currently the primary legislative tool for limiting emissions from domestic burning. And while effective, they cannot act as the sole mechanism for reducing emissions. Scenario 2 relies upon encouraging behaviour change around non-essential burning. A broader strategy should therefore incorporate: Communication to raise awareness of health and environmental impacts. Education to support behavioural change and promote cleaner alternatives. And stakeholder consultation to ensure policies are practical, accepted, and evidence-based.

**Q: What are the estimated costs associated with SCA enforcement?**

There is limited information on the financial implications for enforcement action or whether this can likely be accommodated within existing resources for local authorities. Councils can utilise New Burdens funding payments to cover the costs of publicising and reviewing existing smoke control areas and the training of officers.

Louisa Kramer

**Q: Can sensor systems be used by local authorities for monitoring PM2.5?**

Sensors are used by local authorities and it's a really good way to monitor PM2.5 as they are much lower cost than the standard reference equivalent equipment or the gravimetric samplers. But they are not reference or reference equivalent grade, and are classed as an indicative monitoring technique, but useful for monitoring hotspots, or with a network of sensor they can be used to map local air pollution.

It is generally recommended that sensor units are co-located alongside a reference monitor at least once a year (or more often if possible) to assess the output. This is a good way to quantify the performance of individual sensor systems and can be used for QC of the data collected.

Sensors also have a limited lifespan of around 2 years (but depends on the manufacturer) as they can degrade over time. So, it is important to consider this when using these for monitoring.

**Q: Do we know how many UK sites are measuring black carbon etc?**

There are 26 sites in the UK measuring black carbon. Data from these can be found on the UK Air site.

**Q: As the ambient concentrations get lower, will it be more difficult to monitor PM2.5**

This is an area which has been under discussion recently. The uncertainty of the measurement techniques is greater as we approach the detection limits of the analysers, which are usually a few  $\mu\text{g m}^{-3}$ . So, it may be challenging to measure under the WHO guideline of  $5 \mu\text{g m}^{-3}$ , with the same uncertainty. But it's a good sign that the ambient concentrations are trending towards those lower concentrations.