**Safe Home Summit**

**Skills and policy for a healthy home MOT**

**CO-Gas Safety’s response in blue.**

**Hazards:**

**How can regulation ensure the safety of hazardous appliances, e.g. licensing fossil fuel appliances, mandating in-device monitoring, or limiting second-hand sales?**

**Licensing fossil\* fuelled appliances.**

**Seems a good idea BUT** it’s normally the **installation** **which is wrong and/or lack of proper maintenance of that installation that causes the emission of CO** **and also a lack of ventilation,** although other things can also go wrong suddenly, e.g. blocked flue. **But again, a blocked chimney or flue is part of the installation and the building.**

*\*We’d rather specify ‘carbon-based fuels’ to include wood.*

**There is one important exception which is gas cookers, which we think should be banned.**

This is based on our years of experience and see <https://www.clasp.ngo/research/all/the-public-health-environmental-impacts-of-cooking-with-gas/> &

<https://uk.news.yahoo.com/gas-cookers-bad-scientists-sending-060122982.html>

See also Beth Cheshire’s research <https://www.coresearchtrust.org/media-information/three-year-project-looking-at-risk-of-co-to-older-people-reveals-concerning-findings>

CO levels below WHO guidelines of 4 PPM of CO over 24 hours, caused brain damage to older adults.

**Mandating in-device monitoring**

The Oxygen Depletion System (ODS)

The following summary was kindly written by Ben Kuchta, a Registered Gas Engineer, Chartered Engineer and IGEM Fellow:

‘ODSs are designed to detect a lack of oxygen, rather than specifically detect carbon monoxide (CO) in atmosphere. They work well unless they have been tampered with or the appliance has not been serviced.

It’s important to note that ODSs operate at a threshold higher than the activation threshold of a CO alarm, i.e. they are *less* sensitive than a CO alarm built to EN 50291 standards.

CO alarms to EN 50291 are designed NOT to alarm until it detects 30 parts per million (PPM) of CO for two hours. The WHO guidelines are about 4 PPM over 24 hours (see Appendix 4).

ODSs activate because of a lack of oxygen leading to vitiation at the pilot assembly. As this happens, the pilot flame fails to stay in contact with the thermocouple and after a short period of time the thermocouple will cool, leading to a reduction in the electromotive force holding the gas valve open. The valve thus closes and stops the combustion of gas.’

**Limiting second-hand sales**

We support making second had sales of gas appliances illegal unless sold to Registered Gas Safe Engineers. Sellers to obtain the name and number of the RGE and register this with the Gas Safe Register.

**Arguably all carbon-fuelled appliances should be phased out, starting with gas cookers and quickly followed by coal and wood fuelled appliances.**

**Meanwhile**

1. Greater awareness of CO by use of educational but hopefully amusing films on TV, on radio, in printed media and social media and also, how to prevent CO.
2. All carbon-based fuel engineers and chimney sweeps to be registered by law (as are gas engineers) who must be provided with training and improved mentoring.
3. An emergency service for fuels, other than gas, to be set up alongside existing national gas emergency line 0800111999.
4. A protocol, where CO found or suspected, must be written, agreed and imposed, based on the protocol already written and used by the Guild of Master Sweeps.
5. The emergency carbon-based fuel service to have a mandatory duty to test the air and emissions from appliances for CO whenever practicable and where CO found, to provide parts per million (PPM) of CO in writing/digitally to those exposed or could have been exposed and their medics.
6. All registered carbo-based fuel engineers to have a mandatory duty to test for CO the air and emissions from appliances whenever practicable and where CO found to provide PPM of CO in writing/digitally to those exposed or could have been exposed and their medics.
7. CO alarms to BS EN 50291 (or modern and better equivalent) to be made mandatory for all enclosed spaces. The CO alarm/s must by law be bought direct from the manufacturer or approved retailer.

Ideally CO alarms which can have data downloaded should be made mandatory as soon as they become widely available.

CO alarms with this facility which therefore record CO below the existing requirements of BS EN 50291, to be tested to ensure accuracy as soon as possible.

1. A properly funded body to be set up to do what CO-Gas Safety does on a shoestring to provide specific help and support to research new dangers and what else needs to be done. A template for this organisation is the Advertising Standards Authority see <https://www.asa.org.uk/> Funded by the industry but independent from it.

Gas could be the only practical fuel for centrally heated homes in the UK.

In which case: -

1. CMDDA1 needs rewriting to include a protocol of not changing the evidence is followed and when CO is found a mandatory duty to provide PPM of CO found in the air and emissions from appliances in writing/digitally to those exposed and their medics.
2. The regulations re the distances between intake of air for ventilation and output of emissions also need research, testing, improving and new Regulations approved as soon as possible.

Coal and wood could possibly still be used to power fuel stations to make electricity PROVIDED the products of combustion are filtered out before being emitted into the atmosphere. This was possible in the 1970s.

However, even if all toxins in the products of combustion are known about, we doubt they would all be filtered out. Also, the emissions will almost certainly still increase CO2.

Therefore, why not use other power for electricity generation such as solar, wind and tidal power?

Drawback – lack of power due to lack of sun, wind and a few hours of slack tide between high and low water.

Solution - surely what we need are reservoirs of water held well above sea level (which could be salt water from the sea which would avoid the need for two lakes, one higher and one lower) and water turbines, so that when we lack solar, wind and we’re between tides, in an emergency, lasting perhaps a couple of hours, water could be released, sent down through a turbine to create electricity. When the lack of power is over, and either sun, wind and tidal energy kick back in, the water could be repumped up into the reservoir for reuse.

The advantage of such reservoirs is that there could be many small ones created all over the UK also providing leisure facilities (sailing, swimming, water skiing etc.) as well as power, in times of emergency.

**Universality:**

**How could health and safety regulations be made tenure-blind to cover all housing types?**

No supply of carbon-based fuel will be legal without proof of correct installation, regular maintenance and chimney/flue sweeping and checking, adequate ventilation and a CO alarm to EN 50291 bought direct from the manufacturer or respected/approved/licensed retailer.

Insulation and double glazing are essential but have high costs. Not sure how costs can be covered. Interest free loans? Could energy companies be persuaded to provide interest free loans by Ofgem?

Warning and training about double glazing and insulation. CO risks. Must be dealt with.

**Net zero and health:**

**How can policy and standards ensure both energy efficiency and health and safety in homes?**

Well serviced appliances powered by combustible fuels, are more efficient.

Possibly research is needed to prove this and convince consumers.

Net zero – everyone in the industry seems to think that gas will still have to be used in some form for domestic central heating.

Adding 20% hydrogen is supposed to reduce the CO by 70% but that will still be dangerous. Beth Cheshire’s research showing that even very low levels of CO (below WHO guidelines of 4 PPM for 24 hours) caused brain damage in older adults. <https://www.coresearchtrust.org/media-information/three-year-project-looking-at-risk-of-co-to-older-people-reveals-concerning-findings>

**Information:**

**How can residents, landlords and other housing officers be made aware of interventions and precautions around household hazards?**

Films about the dangers of carbon monoxide etc.

GDNs have large funds from Ofgem for raising awareness about CO and also for ‘customers in vulnerable situations’.

1. But when we recently approached and suggested a film and supplied an idea, they did not seem to want to cooperate with us to do this and did not seem to want to do this at all. We would be happy to help them do this.
2. The GDNs who run the gas emergency service are now all testing for CO or training gas engineers to do so. Cadent and NGN have led the others. BUT everyone is vulnerable to CO however healthy, wealthy or wise. Registered Gas Engineers qualified under CMDDA1 are only 2% of the total number of RGEs and virtually impossible to find. Rules applied by the Gas Safe Register to their employed inspectors seem to persuade RGEs that no test for CO can be carried out for a tenant. This is wrong.

**Powers**

**Licensing:**

All rented homes should be licensed. CO-Gas Safety proposed licensing for private landlords in 1999 and showed Councils or a licensing body could easily provide decent worthwhile jobs and a small profit from doing this as well as prevent deaths and injuries and promote good health.

**How can councils’ licensing schemes be amended to cover more local housing?**

Legislation to state that without licensing, landlords cannot legally rent out property.

There would need to be a phasing in period.

Please note

CO-Gas Safety has come across some Council properties that are in our opinion, ‘not fit for purpose’. Maybe an independent body to license homes is needed?

**Powers:**

**Which bodies should have powers to enforce standards and raise complaints, and how should professionals be upskilled to do so?**

Probably the Council for private landlords and otherwise the HSE but HSE needs funding, more qualified staff and huge encouragement. Alternatively, a new body which licenses all homes, Council, social and private.

Enforcement for private landlords would be mainly by withdrawing the licence.

IGEM should be encourage its members who are experts in CO to help to provide courses about CO. Courses should be checked for accuracy by HSE, CORT, The Gas Safe Charity and CO-Gas Safety and any other body that is set up to take over what CO-Gas Safety tries to do. These courses should become part of mandatory qualifications and CPD courses.

**Enforcement:**

**How can policy around right of entry be adapted to ensure compliance?**

<https://www.google.com/search?client=firefox-b-d&q=Legislation+about+Rights+of+entry+for+gas+emergency+service>

**Gas Act 1986, s18(a)** If a gas transporter has reasonable cause to suspect that there is or may be a gas leak an officer (authorised by the gas transporter) can enter the premises to carry out any work necessary to prevent the escape of gas and take any other steps necessary to avert danger to life or property.

See also powers of entry review.

<https://assets.publishing.service.gov.uk/media/5a7db00b40f0b65d8b4e2e5b/44666_Un-Act_DECC_Powers_of_Entry_accessible.pdf>

Can a GDN be prosecuted for not entering when it does not act under the Gas Act 1986 s. 18(a)? Surely not?

Need for the new emergency service for fuels other than gas to have legislation to provide a similar right of entry.

Authorisation at the moment surely cannot be on a case-by-case basis and is only general? Perhaps HSE could authorise generally.

**Workforce & skills**

**Competency:**

**What competencies could be developed for professionals in ensuring health and safety in homes?**

Awareness of the dangers of carbon monoxide and how to prevent CO and a gas leak as part of their specific training, CPD as well as awareness amongst the general public.

Supplying every professional with a Personal Alarm Monitor (PAM) for CO, ideally also gas and CO2 – surely absolutely basic equipment for anyone entering a home?

Where is the HSE in all this? What does the HSE recommend? How many survivors/victims/families have HSE officials talked to and dealt with?

**Strategy:**

**What could a skills and capacity-building strategy for environmental health in housing involve?**

Building courses must include dangers from CO and how to prevent it.

Improved distances between intake and output from gas and other carbon powered appliances. (CO-Gas Safety has a death caused by CO entering the input of one flat from the output of another).

A course about CO and not building around the output from a carbon powered appliance, for example building on a conservatory which covers the output of the boiler.

A warning that a prosecution for manslaughter by gross negligence could be brought against such a builder would be helpful.

Also, the vital need for ventilation for the prevention of CO and mould.

**Maintenance:**

**What could comprise a healthy home MOT, and which stakeholders could help deliver checks?**

Gas Safety check to include mandatory test for CO both before and after any work done.

Monitors which test all the time for CO, CO2, gas and other toxins.

Possibly all homes should have a healthy home MOT by law?

CO alarms (which also record lower levels of CO, than levels which alarm) to be mandatory.

**Certification:**

**How can the qualifications of providers of maintenance services be ensured?**

Registration and training similar to the Gas Safe Register.

All fuel engineers and chimney sweeps to be registered by law to work on houses.

Same with others who build or maintain properties.