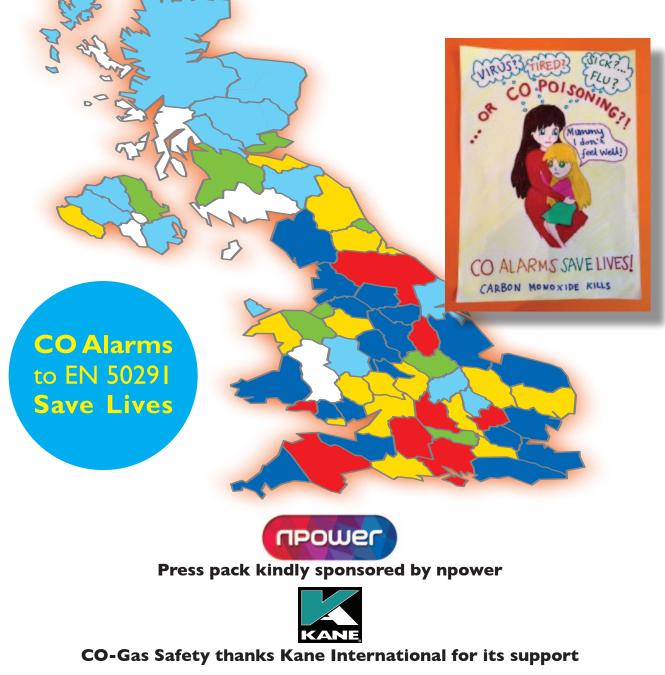


CO-Gas Safety's 22nd Anniversary 1995-2017

21 Years of Data of Deaths and Injuries from Unintentional Carbon Monoxide Poisoning 01.09.1995 – 31.08.2016



CO-Gas Safety's Carbon Monoxide Awareness Competition now kindly run by





national**grid**



National Competition Winner Poppy Anderson with her family





Poppy Anderson and family

Winner for Scotia Gas Networks Scotland Poppy Anderson KSI

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CO-Gas Safety's 21 years of data on deaths and injuries from Unintentional Carbon Monoxide poisoning 01.09.95 - 31.08.2016 & the **CO** Awareness Competition

Press Pack 2017 – 22nd Anniversary pack

Dedicated to the memory of all those who have died or suffered from carbon monoxide poisoning and other products of combustion (CO+) and their families & friends

Page 1	Index
Page 2-3	Summary and report of progress over the past year and past 22 years
Page 4-7	Facts about Carbon Monoxide (CO) and other fuel toxins (CO+)
Page 8	One survivor's story – Belinda's speech at the House of Lords 2015
Page 9	How to prevent future deaths and injuries from unintentional CO poisoning & CO+, background to the charity, data collection, sponsorship sought
Page 10-11	Impact on the population of CO & CO+. Numbers likely to be affected and need for research
Page 12	Cost benefit analysis of a levy to pay for raising awareness & research
Page 13	Project Soter's cut off switch
Page 14-17	CO-Gas Safety's leaflet
Page 18	Summary of legislative changes that CO-Gas Safety proposed, mostly in 1995 & unanimously agreed by CO+Savi, group of victim bodies.
Page 19	One page example of Amendments professionally drafted & put forward by victim group CO+Savi
Page 20-21	Energy Act S. 150 What Baroness Finlay achieved.
Page 22-30	Submission to HSE
	CO-Gas Safety's data
Page 31	Map of the UK showing unintentional deaths from CO over 21 years.
Page 32	Deaths by area
Page 33	Statistics of deaths and injuries. CO-Gas Safety's one page summary of 21 years of data.
Page 34-35	Statistics of deaths and injuries using CO-Gas Safety's data but HSE's dates (04 to 03) & Gas Safety Trust's dates (06 to 07)
Page 36-38	Information about CO-Gas Safety's data & validation by Dr Craggs.
Page 39	Fuel Type - Pie Chart – 21 years.
Page 40	Appliance Type – Pie chart – 21 years.
Page 41	Age of Victims – Bar chart – 21 years.
Page 42	Place (e.g. tent or house) - Pie Chart – 21 years.
Page 43	Tenure Type – Pie Chart – 21 years.
Page 44	Month Chart showing which month has highest number of deaths – Bar Chart - 21 years.
Page 45	One page example of our data published on our website with names of the dead over 21 years.
	Winners of the 2015-16 Schools Competition
Page 46	Winners of the 2015-16 Schools Competition
Pages 47-55	Winning posters of the 2015-16 competition
Pages 56-58	The summer prize giving, press releases the future of the CO Awareness competition for primary schools and a big thank you to all our supporters
Page 59	Npower – a few words and the sponsor of the press pack 2017
Page 60	Network Rail's prime time TV warnings about railway crossings
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is quoted on all material used and a copy of the document in which the data is to be used or quoted is provided to the charity free of charge.

22 years - including 21 years of data

Tragic death of Zane Gbangbola, aged 7, during the floods in Chertsey in 2014 This year has been dominated by this inquest. Zane's parents maintained the death was due to hydrogen cyanide from a nearby landfill site. In June, I was interviewed by Russian TV & said I was ashamed that the family was not given Legal Aid (LA) for the inquest because LA can be granted if the inquest is in the public interest, which it clearly was. Crowd funding at the last minute proved this. Surely LA (needed for evidence gathering) before inquest was in the interests of justice? The family was brilliantly represented by Leslie Thomas QC & I am so thankful & grateful he kept his diary free for them,

In September I attended court for the Coroner's findings. The Coroner stated that Zane, a healthy seven year old had died of carbon monoxide poisoning although only **8% of carboxyhaemoglobin was found in his blood** (and this stays stable on death). The parents were dignified and incredibly courageous throughout. They have the support of Kier Starmer and Andy Burnham and it seems it's Hillsborough all over again. See <u>http://www.dailymail.co.uk/news/article-3794537/Justice-Zane-Newhope-parents-blamed-death-flood-tragedy-son-MP-attacks-seriously-flawed-inquest.html#ixzz4VZK6PnYE</u>

We sent a submission to the Coroner to assist him with his Rule 28 duty (actions to prevent future deaths). We included background about the charity, its work since 1995 and the need for prime time TV warnings about CO to cover all fuels, all appliances & all types of accommodation. I also made specific suggestions with regard to the hire of petrol pumps & warnings etc. With regard to the 8%, I commented:-'Your finding of 8% causing death is horrific in that if you look up <u>http://emedicine.medscape.com/article/2085044-overview</u> heavy smokers apparently have 10-15% in their blood *(and the relevant document was enclosed)*. However, if 8% in the blood can kill, then CO is much more lethal than even we realised.' As of 19.01.17, the Rule 28 report had still not been received by the parents.

Data Dr Craggs made a third inspection of the CO-Gas Safety database see page 37-8. Considerable work has been done on the database this year due to the kind donation by Thomas Cook in 2015.

Safer Tourism We are still hopeful that the Safer Tourism Foundation will improve safety and listen to concerns put forward by victims, their families and bodies that seek to represent them. However, not much has happened yet. Jonathan, Frank Brehany of Holiday Travel Watch and I met with Peter Fankhauser of Thomas Cook in January 2016 & the meeting went well. However, all the tour operators are at risk of a similar event - there was a three year police investigation into Thomson holidays after Janet Smith died of CO in 1994. Every tour operator impliedly contracts that a holiday is basically safe. Therefore we are of the opinion that all tour operators should help fund the Safer Tourism Foundation. Please see link to a recent article with our comments at the end <u>http://www.co-gassafety.co.uk/resources/safer-tourism-foundation/</u> We hope to assist but nothing will happen without funding and commitment.

Buildings In January I met Tom Woolley an Irish architect, building & indoor air expert who kindly recommended Margaret Ritchie MP. We met her in February & she agreed to become our SDLP MP.

Coroners On the 22nd February I had a meeting with the Chief Coroner, His Honour Judge Peter Thornton. Beverley Squire our data officer and Frank Brehany, Holiday Travel Watch also attended. I was invited and gave a short presentation to Local Government managers of Coroners in July.

APPCOG We have found it very strange that the All Party Carbon Monoxide Group has never recommended prime time TV warnings. We are frequently told 'prime time TV is so last century'. In that case why are there so many adverts on prime time TV by British Gas selling their servicing & also about smart meters? Of course such warnings about CO should also be supported by websites etc.

Awareness, Action & Funding In 2015 we produced a leaflet about CO kindly sponsored by Kane. The Guild of Master Sweeps kindly handed out 22,000 of them – aren't they brilliant? Please see page14-17 for the updated leaflet. We are grateful to npower for sponsoring our press pack. However, where are Energy UK, the manufacturers, other fuel suppliers and other members of the fuel industry etc.? Please note that we gave a presentation to Energy UK in December 2015 see <u>http://www.co-gassafety.co.uk/resources/energy-uk/</u>

On the first of June I attended a conference at Brussels presided over by Linda McAvan MEP. At this I saw an excellent film warning about carbon monoxide made with funding ring fenced by the Regulator in N. Ireland. On the 4th June I wrote to Ofgem asking for a meeting to do the same in England and Wales see <u>http://www.co-gassafety.co.uk/resources/ofgem/</u> *. We are still waiting.

The GDNs are kindly taking over the running of the CO Awareness competition which is now open to all primary aged children. John O'Leary has done a huge amount of work. There was an event at the House of Commons in September (pages 57-58) and we hope this competition will now continue.

In early August, accompanied by a survivor, I met John McNally MP who thought he had been poisoned by CO but possibly was actually exposed to natural gas.

Trustees In August we appointed some new trustees of CO-Gas Safety. These are Irma O'Leary, artist and CO survivor, Jim Lambeth, recently retired from solid fuel and Sue Westwood, franchisor and CO survivor. We are delighted to have help from such dedicated, talented and thoughtful people.

Courses Roland Johns gave 7 more courses about carbon monoxide to Scotia Gas Networks & Northern Gas Networks see <u>http://www.co-gassafety.co.uk/information/trainers-of-gas-installers/</u>

Holland In September I went to Amsterdam with Jonathan Kane and met Albert de Vries MP of the Dutch Labour party and also Peter van Veen, a civil servant of the Building Minister to urge the Dutch government to register gas engineers in the Netherlands. We think this will now happen!

New Technology During the year we heard about Ben Kuchta's cut off valve by Project Soter for mains gas, met him in September and have worked well with him. Please see page 13.

APPCOG In October Ben Kuchta, Roland Johns, Jonathan Kane and I met with Barry Sheerman MP to discuss the work of CO-Gas Safety, (data, lobbying etc.), raising awareness, Ofgem & Energy UK and victim support or rather the lack of it.

Kane I attended the opening of Kane's new factory in Welwyn Garden City on 4th November and met many interesting people. I was introduced to the Secretary of State for Business, Energy & Industrial Strategy, Greg Clark MP. Jonathan made the point that smart meter installers should wear Personal Alarm Monitors for CO and I made the point that there were no prime time TV warnings about CO.

H & V News Awards We entered the H & V News awards and are in the finals for 3 out of 4 entries! See <u>https://awards.hvnplus.co.uk/hv-news-awards-shortlist-2017</u>

During the year we have been trying hard to obtain meetings particularly with:-

- 1. The new chair of HSE, Martin Temple.
- 2. Ofgem's CEO Dermot Nolan to discuss raising awareness, see link above*
- 3. Dame Sally Davies the CMO to discuss raising awareness of CO and CO+ amongst the public, GPs and specialists.
- 4. Minister Greg Clark MP to discuss CO generally.

Stephanie Trotter, OBE, President & Director CO-Gas Safety 19.01.17

The Facts about Carbon Monoxide (CO) and Other Fuel Toxins

CO

CO may be emitted from any faulty cooking or heating appliance powered by any fuel that burns (gas, coal, oil, wood etc.). If there is sufficient air at the flame, carbon dioxide (CO2) is produced, not CO. CO2 is a greenhouse gas but CO is lethal because less than 2% in the air can kill in between one and three minutes (see page 26 Table 23 at http://www.hse.gov.uk/foi/internalops/hid circs/technical osd/spc tech osd 30/spctecosd30.pdf

CO is lethal because the haemoglobin in the blood takes up CO in preference to oxygen. (Please note that whereas CO2 has two molecules of oxygen to one of carbon, CO has only one molecule of oxygen to one of carbon.)

Human senses cannot pick up CO, which is another reason it is so dangerous. Sometimes other products of combustion also escape, which do smell but not necessarily. People can describe this as a 'gassy' smell.

<u>Please note</u> that the Gas Emergency Service basically 'makes safe' from gas or CO. When the consumer calls the Gas Emergency Service they ask the consumer to turn everything off and open the windows. They then visit and if necessary, turn the appliance or the gas off in that property. Thankfully the First Call Operators do have Personal Alarm Monitors or PAMs or Gasco seekers which can also pick up CO, so the employees are protected. However, as far as we know, there is no free testing of gas appliances by the gas emergency service although

http://www.northerngasnetworks.co.uk/wp-content/uploads/2015/10/Giving-carbon-monoxidenowhere-to-hide.pdf particularly at page 4 gives us hope.

By the time the FCO arrives the CO will almost certainly have dispersed (due to turning off appliances and opening windows) unless it was coming from next door or from an unsuspected appliance, e.g. a woodburner.

In 2000 the Health and Safety Commission (now Executive) recommended that the Gas Emergency Service has and uses equipment to test and identify any appliance emitting CO but Government has failed to implement this excellent HSC recommendation.

In 2000 the Health & Safety Commission (now Executive) also recommended a levy on the gas suppliers (we would prefer the whole fuel industry) to pay for publicity about the dangers of CO and for research.

Again this excellent HSC recommendation has not been implemented. Why pay for the HSE if Government just ignores it? Also, why ignore it? Surely even on economic terms it would pay to deal with this issue? See our cost benefit analysis on page 12. <u>Please note</u> that Colin Breed MP tabled an EDM (Early Day Motion) asking for these recommendations to be implemented in 2000 and again in 2007. The first was signed by 49 MPs

and the second was signed by 121 MPs (see website <u>http://www.co-gassafety.co.uk/about-</u> <u>co/early-day-motions/</u>). 121 MPs is a huge number for an EDM, so why did it apparently have no effect?

CO dissipates in a live body very quickly so a person needs to seek an urgent blood or breath test. If this is negative, it is not wise to assume that your home or workplace or car etc. is safe from CO and this is why **tests of appliances and air in a house are urgently needed to ensure safety**. Please note that CO can be emitted from next door (e.g. through a joint chimney or roof space) or another flat. Dominic Rodgers, aged 10 died from CO from next door in 2004. In 2007, Esmy Ighodalo aged 27 died in 2007 from CO emitted from a mains gas central heating boiler in another flat.

Investigations can be undertaken by CORGI Services but cost at least £1,800-£3000. If CO is suspected and if a legal action is contemplated, it is vital that this investigation is undertaken before any suspected appliances are worked on (other than to turn them off). Working on an appliance will change the evidence you may wish to rely on. Landlords and installers are well aware of this and often undertake work very quickly. Please note that in our considerable experience most Gas Safe Registered installers will not undertake this test (indeed they will change the appliance and evidence instead) and provide the parts per million of CO to the person affected. Without this, GPs don't take CO seriously (see page 8).

On 01.12.16 there were 1,657 people qualified under CMDDA1 who are qualified to test gas appliances for CO and record CO found in writing.

The problem is that people do not know what to ask for.

Also at the time of writing (January 2017) to find someone to test gas appliances for CO and provide Parts Per Million of CO to the consumer the consumer has to:-

- 1. Access the Gas Safe Register website http://www.gassaferegister.co.uk/
- 2. Click on either 'Gas Emergency' or 'Carbon monoxide poisoning'. If Gas Emergency clicked then consumer would need to scroll down to 'Carbon monoxide poisoning' and click on that. Then a consumer must scroll down until 'Ask a Gas Safe registered engineer to inspect your gas appliances and flues to see if there is a dangerous problem'
- 3. Click on 'Gas Safe Registered engineer' and 'Find an engineer' comes up.
- 4. The consumer has to tick the box for 'Domestic' as opposed to 'Commercial' and put in their post code and can also choose whether to put a tick in the box for 'Flexible hours'.
- 5. Then some firms come up but also the consumer needs to select mains gas or LPG and whether central heating boiler etc. and can select from a list headed appliance type and select from a list of 34 types including 'boats... combustion analysis.... cooker... fire.....fumes investigation...vessel and pipe work....water heater'. The consumer needs to know to select 'fumes investigation' but HOW WOULD THEY especially if they had read about carbon monoxide and learned that CO has no smell?
- 6. Having selected 'Fumes investigation', firms are then listed underneath with their engineers underneath and the consumer needs to read what qualifications individual engineers have.
- 7. The consumer/victim then needs to contact said firms and ask if they employ someone qualified under CMDDA1. If so, to be sure the correctly qualified person, turns up it is necessary to ask for their name and check under the GSR. We also suggest the consumer/ victims asks how much it would cost to test appliances for CO and give PPM of CO in writing.
- 8. When that person turns up the consumer has to check the ID card to make sure it is the person with the qualification CMDDA1.

We have not found anyone able to do this yet. Even a solicitor had problems see page 25 at 21. GSR tells us they will help people by phone.

We have been asking the Gas Safe Register for years to put a simple banner on their website such as 'Suspect carbon monoxide poisoning? Click here' This would then take the person concerned to a list of individuals qualified to test an appliance for CO with their post code (and which was capable of being searched using just a post code) and provide parts per million of CO in writing to the consumer, if found.

Please note that such a test by someone qualified under CMDDA1 is not good enough for a court case but can be a very useful filter or a first test.

Other toxins in fuels and emissions from fuels

1. Evidence from the Internet – our thanks to Gareth Hughes for these references <u>www.airquality.co.uk/archive/reports/cat08/0407081208_Task7_cumbustion_report_issue1.pdf</u> This is about air quality generally. Search for NoX, PM10s, Dioxins, Furans and PCBs and VOCs (Volatile Organic Compounds).

See also the study in Mexico City which shows that pollutants affect more than just the lungs http://www.thefreelibrary.com/Destination+brain%3a+inhaled+pollutants+may+inflame+ more+than+the+lungs.-a0227652701 This article is dated 2010. In autopsies of seemingly healthy Mexico City children who had died in auto accidents or other traumatic events, Calderon-Garciduenas uncovered brain deposits of amyloid-beta and alpha-synuclein, proteins that serve as hallmarks of Alzheimer's and Parkinson's diseases. See the recent article about living near a busy road increasing risk of dementia <u>http://www.telegraph.co.uk/science/2017/01/04/living-nearbusy-road-may-raise-risk-dementia-major-study-pollution/</u>

For natural gas see <u>http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf</u> and search for mercury, manganese, copper, arsenic, chromium, cadmium, barium, nickel etc.

For details of other toxins found in Domestic Heating Oil or fuel oil (Kerosene) combustion see http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s03.pdf

This is from the United States Environmental Protection Agency. For coal see <u>http://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/coal-air-pollution#.WG-S21zIsSE</u>

For wood see <u>http://www.claverton-energy.com/burning-wood-has-worse-carbon-emissions-than-burning-coal.html</u> We can supply further articles. Please email us on <u>office@co-gassafety.co.uk</u>

Wood pellets in store can emit CO see <u>http://annhyg.oxfordjournals.org/content/56/7/755.full?sid=27f48497-532d-4585-9745-</u> ed660da1b2f9 & <u>http://www.hse.gov.uk/safetybulletins/co-wood-pellets.htm</u>

For diesel see http://www.ncbi.nlm.nih.gov/pubmed/1383162

See <u>http://www.epa.gov/iaq/combust.html</u> "*Particles*, released when fuels are incompletely burned, can lodge in the lungs and irritate or damage lung tissue. A number of pollutants, including <u>radon</u> and benzo(a)pyrene, both of which can cause cancer, attach to small particles that are inhaled and then carried deep into the lung."

2. The Reach Legislation, which basically requires all products to have to be proved to be safe, excludes fuels. See

http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF In October 2014 CO-Gas Safety has submitted the following question to http://www.europarl.europa.eu/portal/en/contact

'I would like to know when your committee will next consider air purity (or lack of it) both indoors and outside.

I would also like to know why the Reach legislation expressly omitted fuels when on combustion (and wood chips even in store) can emit toxins which can be lethal and at a lower level cause all sorts of problems from brain damage to depression.'

3. The fact that a test house assures us that the toxins (such as mercury, manganese etc.) are in such tiny amounts that they cannot possibly cause a problem, yet state that they have done no research to prove this nor can they quote any research done to prove this. <u>All gas appliances are tested before sale for the CE Mark but they are tested with laboratory gasses, which are specially prepared to remove impurities such as the other toxins.</u>

4. At the All Party Parliamentary Gas Safety Group (APPGSG) meetings, although the other toxins were discussed, none of the energy companies present denied that they existed.

5. The statement from Dr. Ed Walker in the APPGSG that the other toxic compounds may well be responsible for some of the long-term consequences – see Page 19 of the report January 2009 see http://www.policyconnect.org.uk/appcog/research/report-raising-medical-professionals%E2%80%99-awareness-carbon-monoxide-poisoning as follows:- 'Treatment for the long-term effects of CO exposure is, according to Dr Ed Walker is much more complicated. The picture is complicated by the fact that victims exposed to CO are often exposed to other toxic compounds at the same time, and it may be these that are responsible for some of the long-term consequences. However survivors of severe episodes of exposure often have extensive brain damage which can be demonstrated on MRI scans of the brain. This sort of damage is permanent and irreversible.'

6. We have many other cases over the years in which toxicologists cannot explain damage suffered as resulting from CO, yet that is consistent with damage as a result of the toxins.

7. There is a case of a three year old, who died with a gas appliance in his bedroom, who had insufficient CO in his blood to kill him (in fact zero CO which is unusual). However, Stephanie Trotter, OBE was told by the Coroner, that the child had raised levels of toxins (arsenic, barium and nickel and especially manganese -15 times the higher levels). The inquest has been held (April 2010) and the verdict was death by natural causes. The manganese was explained by contamination and post mortem distribution, although we have been told that there is only research on post mortem distribution with regard to drugs, not heavy metals.

Please note that although we informed the All Party Parliamentary Gas Safety Group about the other toxins in April 2008, the group has refused to examine the other toxins confining their inquiry to CO only. However, as we submitted to the APPGSG, if poisons in water were being considered, and if toxins A,B,C and D were known to exist in water, surely it would be pointless and dangerous to consider only toxin A? Yet this in effect, is what the APPGSG continued to do. It renamed itself the 'All Party Parliamentary Carbon Monoxide Group' or APPCOG. Furthermore, there is a case of poisoning by an oil fired appliance where, having not been worked on, it was tested and found to have negligible CO emissions, yet the couple report they have been badly poisoned by the other toxins.

Please also note that it is extremely difficult for our victims to obtain the services of toxicologists to assist them in any way. The only toxicologists who have been at all helpful seem to have emigrated (e.g. Dr. Alison Jones who was head of Guys Toxicology unit) or retired or undertake research work only. Stephanie Trotter, OBE has tried very hard to obtain the name of a toxicologist to advise on the poisoning of foetuses, but it seems that there is nobody in the UK who can do this or if there is, they are unwilling to assist.

Belinda's speech at the House of Lords in January 2015 at the

20th Anniversary CO-Gas Safety event

One survivor's story

We have compelling evidence and strong reason to believe that we suffered from carbon monoxide poisoning from our gas powered boiler, since moving into a new house in 2007.

Our story highlights the problems inherent in the underfunding, under reporting and consequent under-researching of the already compelling international evidence that **chronic exposure to CO** has on people's health, not to mention other gases and toxic contaminants in boiler fumes.

The net result of this, in my experience, leaves the majority of the emergency services and health professionals, wholly under resourced, uninformed and ill-equipped to properly and adequately respond to victims of chronic exposure to CO, if respond at all.

Sadly, this situation had a catastrophic impact on our lives and we were left in the circumstances that were making us ill. On two occasions I found myself in the utterly terrifying and horrifying position where 2 of my 3 children stared at deaths door. With the first child I did not know the reasons behind her ill-health but with the second, the evidence I presented of a possible link to CO/boiler fumes before this, was not only wholly ignored but I was ridiculed and taunted for raising it.

Our journey illustrates the horrors victims live with as a result of this situation, more to the point, it highlights how a victims health and therefore life, is quite literally, left to deteriorate in the hands of a GP/ENGINEER (OR BOTH) who is, at worst, totally ignorant to the silent killer that CO is or at best, is largely uninformed and consequently inexperienced about the impact on health, of chronic LONG TERM exposure to LOW LEVELS of CO/boiler fumes.

Despite my whole family being ill (including our pets) and frequently going to the GP, the medics never considered CO/boiler fume poisoning, even after two gas alarms sounded a year apart of each other and our boiler finally being condemned. Sadly we got no help at all, but a lot of judgement that caused more trauma, to add to an already traumatic situation.

I had no idea of where to start in order to restore our lives, after getting NO help from the authorities, despite many attempts and requests for help.

I was fortunate enough to make contact with Stephanie and she put me on a path that has been instrumental in turning our lives around.

To you Stephanie I am and always will be eternally grateful.

Explanatory Note by Stephanie Trotter, OBE

Belinda thinks she came across CO-Gas Safety in a brochure for a fire department.

How to prevent deaths and injuries from CO and other fuel toxins.

See www.co-gassafety.co.uk/about-co/prevention/

- All appliances powered by any fuel that burns should be installed and serviced according to manufacturer's instructions – usually once a year. Make sure that the person doing this work is properly qualified. Please check and remember it's your money and <u>your life</u>. With gas the installer must be Gas Safe Registered. However, also check with the Gas Safe Registered website to make sure that the particular person who works on your appliance is qualified to do so (e.g. qualified for fires, not just boilers). This can be done by checking the Gas Safe Register on the Internet or by telephone.
- 2. Make sure all chimneys and flues are regularly swept and checked by a sweep belonging to a recognised trade organisation.
- 3. Ensure adequate ventilation and don't block ventilation grilles.
- 4. As an extra safeguard against CO, buy a CO alarm to European Standards EN50291. This will cost around £15 £20 in most good DIY stores and some supermarkets.
- 5. Never use a barbecue inside a tent or confined space even if you think the barbecue may have gone out or even if cold to the touch.

In an emergency, ring the Gas Emergency Service line on 0800111999 but they will only turn off your appliance or your gas. They will not test your appliances for CO.They may be able to check the air you breathe but you will have been told to turn off all the appliances and open the windows before they arrived. Most fire brigades will usually attend and check for CO in the air. This will not necessarily inform you where the CO is coming from or which appliance is emitting CO, but it is very helpful and we are extremely grateful that most fire brigades will now do this.

Seek immediate medical help and insist on a CO test and ask for the result in writing. Ordinary blood is adequate for this – **there is NO NEED for arterial blood.**

Background to the charity and its data collection, collation and publication

See <u>http://www.co-gassafety.co.uk/about-co/about-co-gas-safety/</u> and <u>http://www.co-gassafety.co.uk/data/</u>

Sponsorship sought

Although we have received a substantial donation of £50,000 in 2015 due to the Corfu tragedy any funding would be much appreciated. All details of how to donate can be found on our website at http://www.co-gassafety.co.uk

We particularly need funding for our data collection, collation and publication. We have had no funding from the Department of Health for our data since 2010. We have had no Department of Health funding for the poster/ awareness competition since 2013.

Impact - Numbers affected

Research commissioned from University College London, published in a press release dated 02.10.06 by HSE, to inform its gas safety review highlights the dangers of CO poisoning in people's homes, coupled with a lack of public awareness of the risks.

The early findings of the research include:

- 23% of homes had one or more defective gas appliance;
- 8% of homes were judged to be at risk of dangerous levels of CO;

<u>Note</u> If there are 22 million households (please see 2012-13 English Housing Survey <u>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284648/English_Housing_Survey_Headline_Report_2012-13.pdf</u>) with 2.3 people in each household, there are therefore 50,600,000 people and 8% of them are 4,048,000. Call this 4 million people – be conservative and call it 3-4 million in the UK.

- 45% of homes had received no information on the dangers of CO; and
- A higher prevalence of problem appliances was found in the homes of vulnerable people (young, old, those in receipt of benefits).

Further research with similar findings has been undertaken by John Moore's university <u>http://www.ljmu.ac.uk/NewsUpdate/index_123350.htm</u> More than 27, 000 properties were visited.

The All-Party Parliamentary Carbon Monoxide Group strongly supports the inclusion of carbon monoxide poisoning as a high risk. The All-Party Parliamentary Carbon Monoxide Group's inquiry 'Preventing Carbon Monoxide Poisoning', heard evidence that carbon monoxide poisoning causes 50 deaths a year (revised to 40 in the latest report by the Cross Government Group on Gas Safety and Carbon Monoxide Awareness), 200 serious injuries, and 4000 minor injuries – which costs the Department for Health in England and Wales approximately £178m a year in medical and care costs, as well as creating immeasurable human suffering.

Furthermore, it is thought that the number affected by CO poisoning **is considerably higher**- a study conducted by Liverpool John Moores University in 2011 measured CO levels in 109 homes over a number of weeks: it found that 24 homes had CO levels greater than 50 ppm (parts per million) – a level in which symptoms of poisoning, such as headaches, tiredness, and drowsiness can be experienced. A further 53 homes contained CO levels between 10 and 50 ppm see link to 'Investigation of audible carbon monoxide alarm ownership' http://www.emeraldinsight.com/doi/full/10.1108/SASBE-07-2013-0041

CO-Gas Safety states:-

This then shows about 22% of homes with CO levels exceeding 50 ppm and 49% of homes with CO levels between 10-50 ppm. This equates very well with other research done over the last 10 years. If one was to extrapolate these figures across the whole of the UK, then we would arrive at a number close to 15 million UK citizens being poisoned by CO in levels greater than 50 ppm and around 34 million being poisoned by levels between 10 and 50 ppm. In total this is 49 million people in the UK being exposed to CO in levels greater than those recommended by the World Health Organisation and as a consequence significant numbers, running into millions will as a result of this exposure eventually suffer chronic ill health.

How do CO and other Toxins impact on the UK Population?

CO+Savi (group of victims and victim groups) suggests that the following statement is used instead or at least in conjunction with any existing numbers in presentations, press releases, publications, etc.

There is currently **no conclusive and comprehensive** way of accurately establishing the actual number of people harmed to whatever level by carbon monoxide and other toxins (CO⁺ for short). It is recognised that there are many sources of data collated over the years. However, this data is scientifically inconclusive at this point in time. We know that some people can suffer temporary

illness, irreversible chronic ill health or death as a consequence of exposure to either low-level, chronic and high-level, acute CO⁺ poisoning. Unfortunately, we do not know how many more are affected and we have no way of objectively and responsibly estimating the true figures.

The Need for Research - Proposed research

CO-Gas Safety wants research into:-

1. What is in gas before and after combustion?

Please note that natural gas varies according to where it comes from. Is it possible for significant amounts of toxins to be emitted into the atmosphere or far worse, blown back into or remaining in a dwelling when there is a partially blocked flue? Would incomplete combustion affect this other than to increase CO? What about flueless appliances such as cookers and some fires? To undertake this research an independent body would have to be found to test the gas before combustion and after combustion using gas in pipes and burned in a boiler with a flue, a boiler with a partially blocked flue. This would also have to be done for a gas fire and also for a cooker in an average kitchen with average ventilation. Also a flueless gas fire should be tested. In 2009 we asked BRE (Building Research Establishment) about the cost of this research and it would cost about £10,000 for an initial laboratory test and a further £40,000 for field tests.

- 2. It is also possible that while the amounts of the toxins in fuels are small, these could build up in the body fat of the person concerned causing problems over a long period. It is well known to toxicologists that this can occur with regard to heavy metals.
- 3. The same as above for oil, coal and wood.

The cost of this research would be far more than we could afford but surely the gas and oil industry must have undertaken such research? If not, why not? **Surely if they are selling their products to the public they should know what is in it and whether if used correctly or <u>incorrectly</u>, there are any dangers to the public?** We need this research to be of the highest quality and extremely independent. We have already asked Lord McKenzie (who at the time was a Government Minister responsible for the Health and Safety Executive, which covers gas) to undertake this research (May 2009) and also drawn the attention of various Select Committees to this need. Please note that there may be a risk to those inside from these toxins when the fumes are not exiting to outside air. However, there is also a possible risk of people & planet poisoning when the toxins exit to the outside air and it seems that scientists who are expert in outdoor air are well aware of these toxins in the atmosphere. However, the amount of such toxins would obviously be much more concentrated in indoor air. The Environmental Protection Agency (EPA) has found that indoor environment is two to five times more polluted than external conditions, and in some cases, indoor atmospheres can be as much as 100 times more contaminated. <u>http://draxe.com/indoor-air-pollution-worse-than-outdoor</u>

We suspect that many people whom GPs report as 'TAT' (Tired All the Time) are in fact suffering from poisoning caused by these toxins and/or Volatile Organic Compounds (VOCs). For blood tests for these toxins see <u>http://www.co-gassafety.co.uk/wp-</u> <u>content/uploads/2015/07/Blood_tests_for_website_final.pdf</u> These blood tests can be done weeks or months later, unlike tests for CO. It is also possible to have urine tests both before and after a provoker has been taken. However, it would still be necessary to prove on a balance of probabilities (for a civil claim) that these toxins, if found in the blood, came from the fuel and appliance concerned. However, if the research really has not been done by the fuel suppliers, surely urgent research on the other toxins emitted by appliances should be undertaken?

Who knows what other conditions might be being caused or exacerbated by these other toxins? For example, ME, CFS, MS, heart disease, diabetes (caused in third world countries by arsenic in the drinking water), respiratory problems and even perhaps Alzheimer's disease?

Cost benefit analysis of a modest levy

The Chief Medical Officer, Professor Dame Sally Davies estimated in 2011 that as many as 4000 people each year are diagnosed with low-level carbon monoxide exposure, with a further 200 admittances to hospital with serious injuries, and 50 fatalities every year. https://www.gov.uk/government/news/carbon-monoxide-poisoning-sends-4-000-people-to-a-e-each-year

APPCOG calculated the approximate cost to society, and found that preventing carbon monoxide poisoning could save the UK £178 million a year, as well as avoid immeasurable human tragedy and suffering. Please see

http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenergy/161/161vw43.htm

The Fuel Safety Levy, even at £2 per annum should bring in at least £44 million per year to be spent on safety improvements. There would be some costs involved in raising a levy but these are likely to be small.

CO-Gas Safety was allowed in December 2015 to make a presentation to the representatives of the gas suppliers via Energy UK (trade body of the energy suppliers including the big 6). Please see <u>http://www.co-gassafety.co.uk/resources/energy-uk/</u> for the PPP and materials handed out. Our view is that the <u>whole</u> of the fuel industry should pay for prime time TV warnings, collection, collation and publication of data, help for victims and lobbying for improvements. However, if the gas suppliers stepped up to the plate, this would be a fantastic start and should hopefully shame other fuel suppliers and appliance manufacturers and other members of the wealthy fuel industry to also contribute to a voluntary levy. We have also recently (04.06.16) been trying to see the CEO of Ofgem with no result so far (see <u>http://www.co-gassafety.co.uk/resources/ofgem/</u>).

Project Soter

The next generation of smart carbon monoxide isolation devices launches 2017

A partnership between innovators at Quantic Corporation Limited and leading British engineering business Synthotech Ltd will see the development and launch of a breakthrough carbon monoxide (CO) isolation system for gas appliances across the UK under Project Soter.

It is estimated that as many as 4,000 people each year are diagnosed with low-level CO exposure, with a further 200 admittances to hospital having serious injuries, and 50 fatalities every year*.

The future of carbon monoxide: our vision

We are passionate about preventing CO poisoning from faulty or poorly maintained gas appliances. Through our innovative smart CO isolation device we will prevent the tragedy and suffering caused by CO as well as reduce costs to the United Kingdom of approximately £178m** by automatically turning off defective gas appliances.

Protection, integration and sustainability

The smart CO isolation device is a flexible platform that has multiple benefits:

- Installed alongside a gas boiler without interrupting the gas supply or affecting combustion and turns off the defective appliance in a dangerous situation, stopping the production of CO.
- Integrated with other smart products and appliances. •
- The smart CO isolation device is capable of learning and reacting to any approved new or existing CO alarm as part of our sustainability initiative.

Stephanie Trotter, OBE, President & Director of CO-Gas Safety says, 'Provided the usual safeguards of alerting the emergency services work, we greatly supports the idea of a cut-off system that could immediately make safe from carbon monoxide. We congratulate Project Soter on this initiative which should greatly contribute to saving lives and preserving health.

Join our newsletter to learn more about the benefits of our smart CO devices and how we're bringing homes into the next generation of smart safety and automation.

Website: www.soter-research.co.uk Email: ben@soter-research.co.uk

- ENDS -

Notes to editors

- Project Soter is the joint effort between Quantic Corporation Limited and Synthotech • Ltd.
- Soter Research t/a Quantic Corporation Limited is a group of control systems • engineers and gas R&D specialists.
- *See https://www.gov.uk/government/news/carbon-monoxide-poisoning-sends-4-000-people-to-a-e-each-year
- **See http://www.publications.parliament.uk/pa/cm201314/cmselect/cmcomloc/50/5 0iii132.htm

For more information about PROJECT SOTER contact Ben Kuchta at Quantic Corporation Limited Tel: 07547506753 Email: ben@soter-research.co.uk



Avoid dying or being injured from carbon monoxide poisoning



Christi and Bobby Shepherd tragically died of carbon monoxide in 2006 in Corfu while on a Thomas Cook holiday.

What is carbon monoxide (CO)?

A deadly gas that can be emitted from faulty cooking and heating appliances powered by any carbon based fuel that burns.



Fuels include gas, coal, wood, petrol, diesel etc.



Can you identify potential sources of carbon monoxide in the picture above? For the answers go to <u>http://www.co-gassafety.co.uk/answers.html</u>

CO cannot be sensed using human senses of smell, taste, sight or touch.

Less than 2% of CO in the air can kill in between one and three minutes.

http://www.hse.gov.uk/foi/internalops/hid_circs/technical_osd/spc_tech_osd_30/spctecosd30.pdf (Paragraph 74 table 23 page 26)

Firemen when talking about CO in smoke (which you can smell) say it takes only three breaths, the first you don't know there's a problem, the second you might suspect there's something wrong but by the third you are unable to take any action.

CO alone being emitted from cooking and heating appliances has no smell.

Why is CO so lethal?

Because it binds to the haemoglobin in the blood which normally carries oxygen so it suffocates.

What is the difference between CO and CO2?

CO2 consists of one molecule of carbon and two of oxygen.

CO also contains one molecule of carbon but only one molecule of oxygen. CO is emitted when there is a lack of oxygen at the flame.

How do you prevent CO in your home?

1. Install all cooking and heating appliances correctly according to manufacturer's instructions using properly qualified people. With gas they must be Gas Safe Registered and qualified to work on your type of appliance.

2. Maintain your appliances regularly according to manufacturer's instructions using qualified people – again with gas much be Gas Safe Registered.







3. Have chimneys and flues swept and checked by a sweep belonging to a recognised trade organisation.

4. Ensure adequate ventilation. Don't block grilles which were put in to ventilate a fire etc.

5. As an extra safeguard (e.g. to protect against a bird's nest falling down the chimney) buy and fit a CO alarm to EN 50291.

Low levels of CO over a long period can make people ill GPs rarely diagnose this as CO.

Please watch our one minute film about Sue who was poisoned – could save your life: <u>http://www.co-gassafety.co.uk/one-survivors-story</u>

Symptoms of low level poisoning include:-











HEADACHES DIZ

DIZZINESS

TIREDNESS

BREATHLESSNESS

NAUSEA

and generally feeling unwell similar to many viral illnesses.

Different members of the family can suffer different symptoms

Please make sure you're safe from CO and other products of combustion.

In an emergency please ring **0800 111 999 for the Gas Emergency Service** but please be aware they do not have the equipment to test gas appliances for carbon monoxide emissions.

If you need further information please visit <u>www.co-gassafety.co.uk</u>



CO-Gas Safety is an independent registered charity run almost entirely by volunteers, offering free and confidential help and advice to victims and their families.

We are especially interested in helping those who have lost a loved one. To get in touch please email office@co-gassafety.co.uk

You can also telephone or text Stephanie Trotter on 07803 088688. If she can't talk to you, please leave your name, number and email address and she will call you back. Stephanie will do her utmost to contact you and help, especially in emergencies and for anyone who has lost a loved one.

Stephanie will try to be accessible to help you at all times, but if she is not available you can contact a solicitor for free initial legal advice. Please see contact details which we will put up if necessary on our website at www.co-gassafety.co.uk

Account of the Corfu case by Stephanie Trotter OBE

Back in 2006 and before CO was announced as a cause of death of Christi and Bobby, I telephoned the hospital in Greece to suggest testing the dead children and, if the cause of death was CO, I urged that hyperbaric oxygen be given to the father Neil Shepherd and his then fiancé Ruth Beatson. Those I spoke to said they didn't speak English so a Greek friend kindly tried but also with little success. I telephoned the relatives with the same advice and spoke to Ruth's father who kindly reminded me about this at the inquest.

Later, I recommended that gas expert Harry Rogers undertake an examination of the boiler that killed the children. Harry gave evidence at the inguest. I also recommended the barrister, Leslie Thomas, now QC. In our opinion, without Harry's evidence, Leslie's skill and the parents' courage and determination and ability to pay Harry, the facts would not have emerged. I also wrote to the police on the 3rd November 2006.

This all arose from our experience of victims who, not knowing what to do, called to ask for independent and impartial help.

The inquest verdict was unlawful killing and the jury found a breach of Thomas Cook's duty of care. For more on the case, please go to the following links:

http://news.sky.com/story/1488464/thomas-cook-goodwill-payout-to-corfu-family

http://www.independent.co.uk/news/business/analysis-and-features/carbon-monoidedeaths-from-a-tragedy-to-a-corporate-disaster-for-thomas-cook-10259735.html

The Coroner made his recommendations public on 6th October 2015 http://www.co-gassafety.co.uk/corfu-inquest-hm-coroner-david-hinchliffs-reg-28-report-toprevent-future-deaths/

At the request of the Corfu parents Thomas Cook gave CO-Gas Safety £50,000 in summer 2015 and are setting up a Safer Tourism Foundation see http://www.co-gassafety.co.uk/resources/safer-tourism-foundation

CO-Gas Safety almost certainly has the best data on unintentional deaths and injuries from CO from all fuels in the UK from 1995.

See http://www.co-gassafety.co.uk/stats_and_analysis.html and please download our years of data from 1995 and our pie charts. This is updated yearly.

CO-Gas Safety has lobbied for prime time TV warnings about CO since 1995.

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Sponsored by Kane International

Illustrations of CO symptoms by competition winner Chihiro. All other illustrations by John O'Leary



Page 17

1. WHAT WE WANTED AND ARE STILL NEEDED TO PREVENT DEATHS AND INJURIES FROM UNITENTIONAL CO+

CO-Gas Safety's suggestions to improve safety and reduce unintentional deaths and injuries from CO and other fuel dangers

Please see http://www.co-gassafety.co.uk/about-co/suggested-changes/

I delivered our suggestions to Don Foster MP, Minister for CLG in a briefing note on 18th December 2012.

For briefing note see <u>http://www.co-gassafety.co.uk/information/energy-bill/</u> and scroll down

Amendments to Energy Bill - Summary

Decided by CO-Gas Safety after 18 years of work, professionally drafted and supported unanimously by CO+SAVi - group of victims, charities and other bodies as well as others from emergency medicine, ambulance and the fire service.

1. Levy on fuel industry to pay for raising awareness, research and action. £2 per household per year would be ample. Compare over £100 proposed for green energy. CO-Gas Safety has lobbied for prime time TV warnings since 1995.

2.Gas Emergency Service to carry and use equipment to test gas appliances for CO. Lord Hunt 'This is a no brainer'.

CO-Gas Safety has lobbied for this since 1995.

3.Change in legislation re landlords to make it clearer that servicing or testing for CO must be done.

We hope that Baroness Finlay's amendments combined with other measures, such as the new ACOP and the need to tests condensing boilers with flue gas analysers, will assist with this aim but this is unclear.

4. Testing appliances before and after exchange of meter. Please note that smart meters must be put in every home.

5. Public Liability Insurance for all registered gas installers, solid fuel and oil installers.

A group of victims and victim groups met in May 2012 under the banner of the then All Party Parliamentary Gas Safety Group. Baroness Finlay urged this victim group to agree on what they wanted to be changed. The CO+Savi group was formed and agreed unanimously on the legislative changes which the group wanted. CO+Savi was well aware that such changes would need to be put in Regulations, in the way that the amendments that have been achieved have been drafted, i.e. the power to make such regulations are put in primary legislation with detailed regulations made later). However, in order to show that these provisions could be drafted relatively easily, the group decided to instruct a lawyer experienced in drafting to draft what had been agreed by CO+Savi. These can be found at http://www.co-gassafety.co.uk/our-professionally-drafted-suggestions/ (One page example is on page 19).

Once these changes had been professionally drafted, CO-Gas Safety lobbied MPs, particularly those on the Committee Stage of the Energy Bill by sending them copies of our drafted amendments with a summary. Holiday Travel Watch also lobbied these MPs. CO+Savi also asked the All Fuels Action Forum to discuss our suggested amendments, but we were left with the impression that little actual discussion took place. The AFAF decided it did not wish to put the CO+Savi suggested amendments forward for consideration by APPCOG or the MPs on the committee stage of the Energy Bill.

2. WHAT WE PUT FORWARD

PROFESSIONALLY DRAFTED SUGGESTIONS THAT CO+SAVI PUT FORWARD TO THE ALL FUELS ACTION FORUM AND TO THE MPS ON THE COMMITTEE STAGE OF THE ENERGY BILL

See http://www.co-gassafety.co.uk /our-professionally-drafted-suggestions/

One page example

1

Carbon Monoxide Safety levy

[

To move the following Clause:-

- (1) There shall be a Carbon Monoxide Safety levy.
- (2) The Carbon Monoxide Safety levy is a levy—
 - (a) charged in respect of supplies of fuel that have been, or are expected to be, made in each specified period, and
 - (b) payable in respect of each such period by persons who make, or are expected to make, the supplies.
- (3) In subsection (2) fuel includes gas, solid fuel, heating oil, paraffin and barbeque fuel.
- (4) The Secretary of State may from time to time by order specify the rate of the levy to be charged.
- (5) The order may, in particular, make provision about any of the following matters—
 - (a) what is a supply of fuel for the purposes of the levy;
 - (b) when a supply of fuel is, or is expected to be, made for those purposes;
 - (c) who makes, or is expected to make, a supply of fuel for those purposes;
 - (d) the rates or amounts of the levy, or how such rates or amounts are to be determined;
 - (e) payment of the levy, including deadlines for payment in respect of each period and interest in respect of late payment;
 - (f) administration of the levy;

© CO-Gas Safety 2013 These amendments were drafted by David Mundy of Bircham Dyson Bell after instruction from Stephanie Trotter OBE CO-Gas Safety and consultation with members of CO+SAVi, especially contributions from Gareth Hughes.

Funded half by CO-Gas Safety and half by the Katie Haines Memorial Trust.

3. WHAT BARONESS FINLAY & APPCOG HAVE ACHIEVED RE THE ENERGY ACT 2013

http://www.legislation.gov.uk/ukpga/2013/32/section/150/enacted

Energy Act 2013

150 Smoke and carbon monoxide alarms

(1)The Secretary of State may by regulations make provision imposing duties on a relevant landlord of residential premises in England for the purposes of ensuring that, during any period when the premises are occupied under a tenancy—

(a)the premises are equipped with a required alarm (or required alarms), and

(b)checks are made by or on behalf of the landlord in accordance with the regulations to ensure that any such alarm remains in proper working order.

(2)"Required alarm" means-

(a)a smoke alarm, or

(b)a carbon monoxide alarm,

that meets the appropriate standard.

(3)Regulations may include provision about—

(a)the interpretation of terms used in subsections (1) and (2);

(b)the enforcement of any duty imposed by regulations.

(4)Provision made by virtue of subsection (3)(b) may in particular—

(a)confer functions on local housing authorities in England;

(b)require a landlord who contravenes any such duty to pay a financial penalty.

(5)Provision about penalties made by virtue of subsection (4)(b) includes provision-

(a)about the procedure to be followed in imposing penalties;

(b)about the amount of penalties;

(c)conferring rights of appeal against penalties;

(d) for the enforcement of penalties;

(e)about the application of sums paid by way of penalties (and such provision may permit or require the payment of sums into the Consolidated Fund).

(6)Regulations may-

(a)include incidental, supplementary and consequential provision;

(b)make transitory or transitional provision or savings;

(c)make different provision for different cases or circumstances or for different purposes;

(d)make provision subject to exceptions.

(7)Consequential provision made by virtue of subsection (6)(a) may amend, repeal or revoke any provision made by or under an Act.

(8)Regulations are to be made by statutory instrument.

(9)An instrument containing regulations may not be made unless a draft of the instrument has been laid before, and approved by a resolution of, each House of Parliament.

(10)Subject to provision contained in regulations, in this section-

- "the appropriate standard", in relation to a smoke alarm or a carbon monoxide alarm, means the standard (if any) that is specified in, or determined under, regulations;
- "local housing authority" has the meaning given in section 261(2) of the Housing Act 2004;
- "premises" includes land, buildings, moveable structures, vehicles and vessels;
- "regulations" means regulations under this section;
- "relevant landlord" means a landlord in respect of a tenancy of residential premises in England who is of a description specified in regulations;
- "residential premises" means premises all or part of which comprise a dwelling;
- "tenancy" includes any lease, licence, sub-lease or sub-tenancy (and "landlord" is to be read accordingly).

The Smoke and Carbon Monoxide Alarm (England) Regulations 2015 came into force on the 1st October 2016.

There was an interesting debate at the House of Lords 07.09.15 This raised carbon monoxide issues.

http://www.publications.parliament.uk/pa/ld201516/ldhansrd/lhan38.pdf

Stephanie Trotter wrote a briefing note for Lord Hunt of Kings Heath and part of this was as follows:-<u>CO alarms</u>

'To ensure that a carbon monoxide alarm is equipped in any room, which contains a solid fuel burning combustion appliance'.

The English Housing Survey at

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/406740/English_Housi ng_Survey_Headline_Report_2013-14.pdf states at page 8 that In 2013-14 '19% (4.4 million) of households were renting privately'. According to DCLG (received via Dominic Gillan of APPCOG) 8.6% only of this 19% have solid fuel. (Dominic 'I just received the attached document from DCLG – it appears that there are **354,000 PRS properties with solid fuel**, or 8.6% of the total.')

CO-Gas Safety found **only 1.2%** of its deaths in privately rented properties where the CO originated from **solid fuel** appliances.

Summary

Although these regulations are welcome, they can only prevent a tiny number of deaths.

Submission to HSE re GSR and re Gas Safety in general - Sent 09.01.17 & 12.01.17

I, Stephanie Trotter OBE have run the independent, registered charity CO-Gas Safety since 1995, helped by other voluntary directors, mainly victims and MPs.

We have collected, collated and published data of deaths and injuries from unintentional carbon monoxide (CO) poisoning since 1995. We have also done what we could to help victims and their families since 1995. We have lobbied for safety improvements to reduce these unnecessary avoidable tragedies. We continue to undertake this work.

Please note that in September 2016 the Woking Coroner found that seven year old Zane Gbangbola, previously healthy, died of CO in 2014 although only 8% carboxyhaemoglobin was found in his blood. I personally do not agree with the finding but it is the verdict of the Coroner. HM Coroner Richard Travers has therefore found that CO is much more dangerous than even we thought.

Please note that estimated deaths and injuries from unintentional carbon monoxide poisoning cost the taxpayer £178 million a year. Please see http://www.publications.parliament.uk/pa/cm201314/cmselect/cmcomloc/50/50iii132.htm

A. Re the Gas Safe Register

 Keeping the register This has greatly improved under Capita. As well as keeping the register there is also the checking and invest

As well as keeping the register there is also the checking and investigation from time to time. There are of course two types of investigation.

- (i) The first is simply that as part of the checking process for the register and presumably jobs done are inspected on a random basis. However, in our opinion the process should be made more public and it should be easier for organisations and the public to know how this is done. I don't know how the normal checking type of investigation is done or why certain people are picked on – is this just random or is it risk based or a combination of both?
- (ii) The second type of investigation is investigating complaints and incidents with procedures for possibly striking registered installers from the register. In our opinion this type of investigation should certainly be separated because GSR receives the registration fee if it doesn't strike off. Therefore in our opinion there is a conflict of interest in one body doing both of these.

Due to this conflict even the first type of checking should also be done by another body.

- 2. There used to be a CORGI criteria. Now there are GSR KPIs. These seem to change all the time and are not accessible to the public. It would be very helpful if these KPIs were published and surely they should be accessible by the public? If there are commercial matters in them (e.g. prices), surely these could be redacted?
- 3. Are standard inspections of gas jobs done undertaken on a random basis? If inspection is not done on a random basis is there some reason for this? Are jobs chosen by the GSR or by the registered installer? If for practical reasons all jobs to be inspected have to be put forward by the registered installer this is another reason why all jobs should be logged (see further at 14 below). If jobs were logged there would be no need to involve the registered installer before or during the inspection (see 14 below). If a job has been done so badly that the job is unsafe and may have injured someone, surely the 'job' is a crime scene? Unless and until an inspection is

completed it is surely impossible to make a judgement about whether or not the 'job' is a crime scene?

- 4. Are leaflets about CO (e.g. <u>http://www.co-gassafety.co.uk/wp-content/uploads/2015/12/leaflet-word-version-16-08-16-compressed-for-web-24.08.16.pdf</u>) given out to consumers on inspections? If not this is an opportunity to raise awareness which is not being used at the moment so please could this be done with perhaps the Gas Safe Charity funding this?
- 5. In what circumstances are <u>investigations</u> into gas work undertaken?
- 6. If a consumer or installer complains about a job or registered installer is an investigation always done?
- 7. In our opinion investigations should be provided for consumers when they ask for them.
- 8. Do inspections/investigations still require the presence of the GSR installer who might have nearly killed the family? Perhaps because naturally so few officials at head office talk to victims and their families I need to state just how distressing this can be for the family and also how alarming. Allowing the registered installer to be present at 'the scene of the crime' also provides an opportunity for the evidence to be changed or lost. Even if the evidence is not changed, there is the issue of justice not only being done but being seen to be done. If the registered installer is allowed to be present could this please be changed? If the HSE is not willing to change this perhaps at least the investigation could be adapted in some way so the family has their own expert there too? Also, could the whole visit be filmed to ensure that the evidence is not changed?
- 9. Can other GSR installers report other firms to GSR for investigation on a confidential basis? Would this be possible? I am always being told of poor work done found by good gas safe registered installers and indeed the gas magazines often feature these. Such good installers feel impotent and angry about a system in which they say that they are trying to raise standards but there are many installers who don't know what they are doing and are putting the public at risk. I have come across many installers who don't know the difference between CO and CO2 or who confuse the two and/or who don't realise that CO can be emitted from fuels other than gas. This is simply not good enough. To improve this and as a result of the death of registered gas installer, Matthew Nixon in 2000 from CO from using a petrol generator to power his tools indoors, we have created a course see http://www.co-gassafety.co.uk/information/trainers-of-gas-installers/ Please note that Matthew had been in the gas industry for 6 years.

This is not an isolated incident as the deaths of Kelly Webster, 36 and Lauren Thorntonaged, 10 in 2013 as a result of work done on a petrol generator on a boat on Lake Windermere by registered gas installer Matthew Eteson, have sadly proved. Please see <u>http://www.dailymail.co.uk/news/article-2302743/Lake-Windermeredeaths-Kelly-Webster-36-daughter-Lauren-Thornton-10-die-boat-faultygenerator.html</u> This was also a tragedy for Matthew Eteson and in our opinion amply demonstrates the lack of proper awareness of the dangers of CO by the general public as well as the poor training about CO for registered gas installers.

Could HSE please support our call for better training about CO from all fuels?

- 10. When inspectors from the Gas Safe Register inspect or investigate jobs, do the inspectors test each gas appliance for CO as a matter of safety? If so and if CO is found, do the inspectors provide Parts Per Million (PPM) of CO in writing to the consumer? Victims need PPM of CO for their doctors so they are not wrongly diagnosed and given the wrong, sometimes harmful treatment. If no CO is found it would also be helpful if this finding was put in writing and given to the consumer.
- 11. In our opinion, the GSR should be able to insist on Public Liability Insurance for all registered installers and operatives for the sake of everyone concerned. This would require legislation.
- 12. Appeals against being struck off are possible for the registered installer. Is there any possible appeal by the householder or consumer who doesn't agree that the registered installer should be allowed to remain on the register? For such an appeal the householder or consumer might need someone to represent them. This could be the independent expert who was present at the investigation (see para 8 above) who could put the family's side to the panel concerned with striking off. Please note that at the moment such an expert costs at least £2,000.

13. Registration of firm not operator.

Rules of registration clearly apply here and operators must be listed on the register– this is good. Christine Bridge of HSE kindly sent me the rules of registration so I can see that this now carries much more weight than we had thought. However, with regard to the legal profession, both the solicitor and the firm have to be registered and so both could be struck off. Solicitors can't directly cause a death or injury through their negligence but registered installers obviously can do so. Therefore it seems more important that both are registered.

I am still not sure how the gas registration system works at the moment for example what happens if an individual fails his assessment but continues to work for a registered firm? I have received information from Christine Bridge that failures of assessments are not received but that a pass is necessary for renewal. Therefore it seems possible that those who fail the assessment can continue undertaking gas work, at least until their previous assessment runs out.

We still think it would be better for both the firm and the individual to be officially registered (because it is possible for the firm to put unreasonable pressure on an employed operative) but this would almost certainly require legislation.

- 14. Wouldn't it be an improvement to the whole system if registered installers and individual installers had to <u>show</u> their registration number to the consumer before the work was commenced? In this day and age surely such numbers could be put into an iPhone and checked by the consumer? Surely registered installers (and we hope in the future the individual operatives/installers) could be given QR codes and this could be scanned by the consumers' iPhone and the process could also log the job automatically?
- 15. In our opinion maintenance should be registered. Perhaps maintenance could be registered with the GSR rather than the Local Authority as installations are registered. This could be done really easily now via iPhones as per 14 above. This would increase accountability and therefore improve safety. We suggest that there should be a duty to scan the QR codes as a condition of registration plus an incentive to assist sweeten the pill, e.g. the registered installers

and operatives with the most scanned jobs plus the most praise from customers as well as being checked for safe work, are automatically being put forward for an event to compete for 'registered firm of the year' and 'registered operative of the year' with a holiday in the Caribbean for four as a prize for each, perhaps sponsored by a manufacturer?

If the above cannot be done then at least there should be more recognition of installers. There should be more events where registered installers are listened to and rewarded. This would have to be carefully handled because of the danger of conflict of interest but perhaps the GSR could persuade the wealthy charities (GST or GSC) or manufacturers to pay for and organise this event? Such appreciation would in our opinion mean that the GSR was also appreciated and not seen as simply a money making machine which is how so many registered installers have told me they feel about the GSR. This is something they moan about to consumers which in our opinion leads the whole system into disrepute. We would really like to see the registered gas installers take pride in their work, training and registration. Their work is extremely important and our lives are in their hands. In my opinion their work is far more important than that of lawyers or accountants who merely have our money or possibly rarely our liberty in their hands, but never directly, our lives.

- 16. In our opinion technical guidance/mentoring is essential for reference for all registered installers but especially new registrants who will be very likely to need advice on old appliances. Does this exist?
- 17. Are there any rules on apprenticeship, e.g. the length of time an operative should be apprenticed for? If not, in our opinion there should be.
- 18. Is there any evidence that there is more dangerous work done by operatives who are new to the job or who have had no apprenticeship or a very short apprenticeship?
- **19**. If there is no evidence, in our opinion it would be helpful if faulty gas work was studied and evidence of the cause of safety problems, obtained.
- 20. In our opinion there is an urgent need for an improvement with regard to accessing gas safe registered installers qualified under CMDDA1 to investigate fumes and/or investigations undertaken by independent court witnesses, expert in gas.
- 21. Could HSE please undertake a mystery shopper exercise to find someone qualified under CMDDA1 to test for CO and leave Parts Per Million in writing with the householder because even a solicitor, Debra Morris, found this almost impossible.

Debra Morris of Barratts Associate Solicitor Direct Dial: 0115 9315199 <u>Debra.Morris@barratts.legal www.barratts.legal.</u> I know from experience of talking to victims of CO poisoning since 1995 that some people who have been poisoned are often so damaged that they cannot even write letters and emails even those who are highly intelligent and educated.

22. <u>The 5 year assessment.</u>

In our opinion there is too much time between assessments particularly with new appliances etc. coming onto the market. Updates could be provided via email and perhaps meetings every month or two, with assessments every year to enable the courses etc. to be much shorter and cheaper. Could this be subsidised by the fuel

industry? At the moment installers have to take time off work to be assessed every five years as well as pay for this.

It seems to CO-Gas Safety that installers bear the brunt of all the costs of safety as well as most of the responsibility, yet have no power and are mostly ignored if they try to make any representations (or so they tell us). Energy suppliers and manufacturers may also have their problems but they don't tend to want to talk to us!

23. The GSR and/or the body that carries out the inspections and investigations should owe a legal duty to the public. This almost certainly would require legislation. However, this would in our opinion improve the status of the GSR and the opinion that most registered installers have of the GSR.

B. More general points about carbon monoxide and gas safety

- 24. Why is it that only installers of gas have to be registered when there are more deaths per user from CO caused by other fuels?* This would require legislation. *See page 27 of our 2016 press pack <u>http://www.co-gassafety.co.uk/wp-</u> <u>content/uploads/2016/01/Press-Pack-2016-final.pdf</u> We are about to bring out a new press pack 2017 but the proportion is the same.
- 25. There needs to be increased awareness of the dangers of carbon monoxide poisoning and other gas dangers and this awareness should be paid for by a levy on the industry. A levy on the gas suppliers to pay for raising awareness and for research was recommended by HSC (now HSE) in 2000. CO-Gas Safety has lobbied since 1995 for such a levy on the <u>whole</u> industry for increased awareness and for these warnings to be prime time TV warnings backed up by social media, websites, victim support and research.
- 26. We suggest that the law should require annual servicing of all appliance powered by all carbon based fuels. This would of itself raise awareness, improve safety, prevent deaths and injuries from CO+ (i.e. CO and the other products/toxins produced as a result of combustion see http://www.co-gassafety.co.uk/about-co/other-toxins/).
- 27. In our opinion cut off systems with automatic notification of emergency services perhaps should be fitted that alert the emergency services to emissions of CO. This would greatly reduce deaths and injuries. Cut off systems are available.
- 28. In our opinion, HSE needs to flag up carbon monoxide and gas safety with Ofgem. This could be done easily and cheaply if only the HSE would raise this and might make all the difference to Ofgem's attitude and therefore to action on gas safety. Why did N. Ireland's regulator ring fence funds to raise awareness resulting in prime time TV warnings yet Ofgem's CEO won't even see us? Please see our email to Dermot Nolan Ofgem's CEO dated 04.06.16.
- 29. We have been saying since 1995 that the gas emergency service should carry and use equipment to test gas appliances for CO. This was also recommended by HSC (now HSE) in 2000. The reasoning behind this idea is until a test for emissions is undertaken using analysing equipment, how can anyone know whether or not there is an emission of a deadly gas that cannot be sensed using human senses, yet of which less than 2% in the air can kill in between one and three minutes*?
 *(<u>http://www.hse.gov.uk/foi/internalops/hid_circs/technical_osd/spc_tech_osd_30/spc_tecosd30.pdf</u> see Para 74 table 23 page 26).

In my opinion there has been a resistance from the industry to the use of analysing equipment. As a consumer who has talked to victims and their families for over 22 years about carbon monoxide poisoning, I just do not understand this. 26(9) of the Gas Safety (Installation and Use) Regulations is perhaps the root of the problem. Reg. 26(9) to me produces almost comical results were it not that the way things are done causes tragedies (e.g. the Mills case when Gerry Mills died a month after a visit from the emergency services, who wrongly suspected the safe appliance and didn't test appliances using equipment such as a flue gas analyser). It seems to us obvious that analysing equipment will not take over the skill and judgement of gas installers and operatives but is surely a hugely valuable tool that should be used at every opportunity? Yet the Luddite attitude persists. Is the real reason for this persistent refusal to impose use of analysing equipment particularly by the gas emergency service because without such proof of CO, landlords and members of the fuel industry escape accountability due to the fact that the burden of proof is on the claimant? HSE made the correct recommendation that the gas emergency service carry and use equipment to test gas appliances for CO (in order that a dangerous appliance emitting CO could be identified) but no action has been taken by Government. HSE seems reluctant to press home their excellent recommendation. Why? Perhaps technology has come up with another way, see 27 above. However, it will no doubt be decades before all homes are fitted with such a device unless fitting such a device was made mandatory by legislation.

First Call Operators do now all have Personal Alarm Monitors for CO to protect employees as far as we know. However, as most consumers turn everything off and open the windows as they are told to do when they ring the gas emergency number the chances of finding CO is hugely reduced. Even so the Gas Distribution Networks have been surprised to find that their PAMs have alarmed. However, the existing procedure, while protecting employees and perhaps picking up odd incidents (e.g. unsuspected wood burner or CO from next door), does not identify which appliance, if any is emitting CO. There is also no rounding of the circle to make sure that consumers have obtained the services of a Registered Gas Installer to check/service the appliance. Some (Northern Gas Networks*2) carry and use Flue Gas Analysers which is great improvement. In our opinion PPM of CO if found should be provided to the consumer in writing by the FCO.

*2 Please see <u>http://www.northerngasnetworks.co.uk/wp-</u> content/uploads/2015/10/Giving-carbon-monoxide-nowhere-to-hide.pdf particularly <u>at page 4</u>. This is very hopeful.

30. We have been told that HSE takes very little or indeed no action on RIDDOR notices. In our opinion this brings RIDDOR notices disrepute and may mean that fewer RIDDOR notices are issued or properly filled out etc. Surely a registered installer who fills in a RIDDOR notice should be informed about what action has been taken by HSE? Surely also there should be a check undertaken to make sure the consumer is safe?

There seems to be no legal requirement for the HSE to take action on a RIDDOR. Surely the law should be changed or at least HSE for the sake of its own reputation should recommend that the law be changed?

31. In our opinion there need to be more prosecutions of illegal work, negligent registered installers and landlords. There also needs to be more funding for the HSE to do this. For the sake of its own reputation, surely the HSE should recommend this? There were only 9 prosecutions of landlords last year according to

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- 32. In our opinion most agree that training needs to be improved and a good apprenticeship is essential. It would be helpful to undertake research on what a 'good apprenticeship' amounted to (see 17 & 18 above).
- **33**. Are examinations and assessments honest and independent? In our opinion there should be spot checks and secret cameras as shown on TV in a recent report in the media of people having to pass English tests.
- 34. In our opinion there should be more opportunity for victims to provide input into the GSR. The fact that there are so many victim based organisations all working as volunteers should surely convince the HSE of this need.
- 35. In our opinion there should be help for victims but not from the GSR. The first thing victims need is for the 'scene of the crime' to be preserved (other than to turn the gas appliance off or disconnect the appliance). Secondly victims need gas experts, legal experts and medical experts. These tend to be almost impossible for victims to find and a body should be set up and properly funded by the whole industry to help victims to do this.

Then there is the issue of payment for the investigation. Consumers may need to sue and recover damages. Otherwise the results of negligence are paid for by the taxpayer.

Of course the best outcome for everyone is that awareness of the dangers and proper training and accountability mean no consumer is injured or dies so there is no need for legal action.

The Gas Safety Trust and Gas Safe Charity are well funded but victims tell me that I am the only body with a telephone number on the website who responds. Surely there should be more help for people who have been poisoned by carbon monoxide or other gas dangers than a person who has been running a charity as a full time volunteer since 1995, is now aged 67 and whose organisation CO-Gas Safety has no guaranteed funds?

Please note that most consumers can't even access investigators and most investigations using expert court witnesses cost at least £2,000.

Please note that I helped the Corfu parents with medical help, expert help (Harry Rogers, but the parents had to pay for his investigation) and I recommended Leslie Thomas as their barrister for the inquest. Leslie is now a QC. Without our help, the willingness of Harry Rogers to fly to Corfu to investigate (itself requiring courage), the skill of the experts and the parents' means and determination, the facts would never have emerged.

If the facts had never emerged how many more deaths might there have been?

In our experience the lack of preservation of the evidence, access to experts and the cost mean that there are many cases where CO cannot be proved in the UK. This means there is a Catch 22 situation which results in the following: without proof of CO, there is apparently no widespread problem with regard to CO poisoning. However, the consequence of this is that when CO has caused an injury or death but cannot be proved, the cost of those deaths and injuries fall on the taxpayer and the opportunity for lessons to be learned and lives saved in the future is lost.

- 36. In our experience and opinion, it should be recognised that victims are a rich research resource for prevention and victims should be encouraged to put their views to the GSR and HSE etc. I have learned a vast amount from victims and their families and from our data. Research should be funded and encouraged.
- 37. Data of deaths and injuries are also vital to the improvement of gas safety. CO-Gas Safety has collected, collated and published data of deaths and injuries from unintentional carbon monoxide poisoning from faulty heating and cooking appliances as well as generators, tent lamps and vehicles etc. with regard to <u>all</u> fuels since 1995 but for how much longer? We have lost count of the number of funding applications we have made to the Gas Safety Trust! We made the most applications to the GST because data and research are in the remit they wish to pursue on gas safety. We have also made appeals to Energy UK and was finally allowed to make a presentation to Energy UK December 2015. I will add this presentation to the email I am using to send this submission.
- **38**. There should be ownership of gas safety by one government department. The cross departmental committee has improved hugely but there is no one department responsible for CO and fuel safety and this makes progress very slow and difficult.
- **39**. Black spot detectors should be made illegal because they do not rouse people from sleep or a CO induced stupor and provide a false sense of security. This will require legislation.
- 40. It should be illegal to sell CO alarms except those recognised by an existing standard such as EN 50291. This will require legislation.
- 41. Research is needed into natural gas and mercaptan (the odour added to natural gas which has no smell). We have always received complaints about illness and injury from gas leaks not CO. See http://www.kumed.com/~/media/Imported/kumed/documents/kdhe-20methyl-20mercaptan.ashx Recently, we seem to have been receiving more complaints but perhaps I have had some time to consider this, but medical experts mostly dismiss even the possibility of injury from exposure to leaks of natural gas.
- 42. Research is also needed into the products of combustion other than CO. <u>http://www.co-gassafety.co.uk/about-co/other-toxins/</u>
- 43. Landlords' gas safety certificate. In our opinion this needs to be clarified and amended. This would only require an amendment to the statutory instrument below and so could be done relatively easily if HSE insisted. In our opinion this would really help to save lives. The landlord's gas safety certificate is widely ignored and derided. See https://www.theguardian.com/money/2013/may/09/landlords-agents-fail-tenants-gas-safety

Proposed Change to:-

The Gas Safety (Installation and Use) Regulations 1998

Reg. 36

Person undertaking the check must either undertake a service according to manufacturer's instructions or, following procedures outlined in BS7967 part 4 (or succeeding similar standard), use a Flue Gas Analyser or similar equipment complying with EN50379 (or succeeding similar standards) to measure the combustion gasses for PPM (Parts Per Million) of CO and also the CO/CO2 ratio and make and keep a record of those measurements provided they are within the recommendations made by the manufacturer. If the measurements are not within the specifications made by the manufacturer, a full service must be undertaken and checked, using a flue gas analyser or similar equipment as above. Then a record of those measurements must be made and kept. (Note such measurements using the QR details of the registered installer could be automatically sent to a cloud where it could be kept).

Person undertaking the check will also ensure that at least one CO alarm to EN 50291 (or succeeding similar standard) is fitted in the property, in an approved position with reference to the standard, is within date marked on the CO alarm and is working effectively.'

We have support for this from APPCOG in its 2013 report see summary at item 4 <u>http://www.publications.parliament.uk/pa/cm201314/cmselect/cmcomloc/50/50iii132.</u> <u>htm</u>

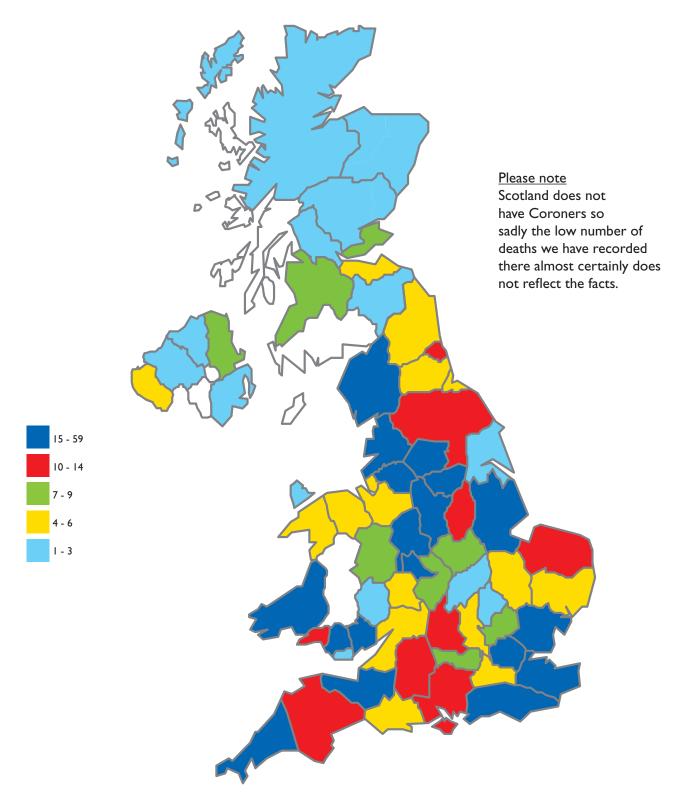
We have the support of the Katie Haines Memorial Trust and Holiday Travel Watch. I then sent this proposed to Chris Bielby who said that he would raise this suggestion with the HSE. I have since asked him to support this and to see if the bodies he is chair of (Gas Safety Trust, Gas Industry Safety Group) would support this.

44. We find it difficult to understand why so few of the recommendations made by Baroness Finlay and APPCOG in 2011 and in 2015 have been implemented. I reproduce both sets of recommendations with comments made at the time by CO-Gas Safety.

Note Documents included with this submission.

- (i) The questionnaire we submitted to Frontline in 2006 see link <u>http://www.co-gassafety.co.uk/resources/major-documents-submitted-to-hse/</u>
- (ii) The Power Point Presentation made to Energy UK December 2015 see link <u>http://www.co-gassafety.co.uk/resources/energy-uk/</u>
- (iii) The email we sent to the CEO of Ofgem dated 04.06.16 see link <u>http://www.co-gassafety.co.uk/resources/ofgem/</u>
- (iv) Recommendations made by APPCOG in 2011 with comments by CO-Gas Safety see link http://www.co-gassafety.co.uk/resources/major-documents-submitted-to-hse/
- (v) From Awareness to Action by APCOG January 2015 with comments by CO-Gas Safety see link <u>http://www.co-gassafety.co.uk/resources/major-documents-submitted-to-hse/</u>

UK deaths from unintentional carbon monoxide poisoning from 01.09.95 to 31.08.2016



CO-Gas Safety received information about deaths from media, families, Coroners and other organisations, such as the Solid Fuel Association and HSE.

CO-Gas Safety writes to every Coroner concerned to check each death and most are very helpful.

Deaths by County and Country within the UK

England	568
Wales	97
Scotland	28
N. Ireland	22
Total	715

Page 32

England

Lingianu	
London	65
South Yorkshire	39
Derbyshire	27
Kent	26
West Yorkshire	25
Staffordshire	20
Sussex	19
Cornwall	19
Cumbria	19
Essex	19
West Midlands	18
Lancashire	18
Lincolnshire	18
Norfolk	17
Greater Manchester	16
Somerset	15
North Yorkshire	14
Nottinghamshire	12
Oxfordshire	12
Devon	11
Hampshire	11
Wiltshire	10
Tyne & Wear	9
Hertfordshire	9
Berkshire	9
Merseyside	8
Leicestershire	8
Shropshire	8
Warwickshire	6
Dorset	6
Buckinghamshire	6
Gloucestershire	6
Cambridgeshire	5
Northumberland	5
Suffolk	5
Cheshire	5
Durham	5
Worcestershire	4
Cleveland	4
Surrey	4
Herefordshire	2
Northamptonshire	2
Humberside	1
Bedfordshire	1
Total	568

Wales

Dyfed	29
Mid-Glamorgan	21
Gwent	19
West Glamorgan	13
Gwynedd	6
Clwyd	5
South Glamorgan	3
Anglesey Isle of	1
Total	97

Scotland

Strathclyde	9
Fife	8
Lothian	4
Highland	2
Central	2
Grampian	1
Scottish Borders	1
Tayside	1
Total	28

Northern Ireland

Co. Antrim	7
Co. Fermanagh	6
Co. Down	4
Co. Tyrone	3
Londonderry	2
Total	22

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CO-GAS SAFETY'S STATISTICS ON DEATHS AND INJURIES*

UK deaths caused by accidental Carbon Monoxide (CO) poisoning

(Between 1 Sept 1995 - 31 Aug 2016): Total: 715

Note *Information is collected from the International Press Cuttings Bureau on a daily basis and from other sources. Coroners are contacted about all deaths. The tabulated data presented here is based on the December 2015 update. For further details please visit www.co-gassafety.co.uk

TENURE												
Total Number of CO accidental deaths by Tenure: (1 Sept 95 – 31 Aug 2016):												
Owner/Occupier	406											
Private Rental	69											
Council	69											
Housing Association	19											
Other (e.g. hotel)	39											
Unknown	113											

SITUATION					
Total Number of CO	accidental de	eaths by Situation (1 Sept 19	95 – 31 Aug 201	.6):	
House	340	Campervan	Public House	4	
Flat	101	Boat	32	Care Home	2
Bungalow	50	Shed/Cabin	12	Shop	4
Caravan	31	Hotel	5	Public Hall	2
Vehicle – car/lorry	16	Workshop	5	Other	11
Garage	27	Tent	14	Unknown	41
Work Place	12	Commercial Premises	5		

		_	JEL T																			
		То	tal Nu	mber	of CO	accid	ental o	leaths	s by Fu	el bre	akdov	vn and	I CO-G	ias yea	ar (1 So	ept to	31 Au	g):				
	95/96	96/97	97/98	66/86	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	60/80	09/10	10/11	11/12	12/13	13/14	14/15	15/16	Total
0	22	22	20	24		45	0	12	0		12	0	12	10		4.2	0		2	2	0	240
Gas Mains	33	23	20	24	14	15	8	12	8	14	13	9	12	18	4	12	0	4	3	2	0	248
Gas Portable	8	8	5	5	10	6	7	7	7	4	7	4	3	6	5	3	1	2	3	0	0	101
Solid	26	18	26	14	17	14	5	8	5	5	8	14	11	5	9	9	11	5	5	5	1	221
Petrol	6	7	3	7	3	5	6	1	2	3	2	9	5	4	6	6	2	4	5	1	0	87
Oil	0	2	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	6
Paraffin	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Unknown	1	1	0	0	1	0	2	2	1	2	2	2	1	3	0	2	3	7	1	4	14	49
Total	74	59	54	51	46	40	28	30	23	28	32	39	33	37	25	32	17	23	17	12	15	715

Note Zane Gbangbola, aged 7, died in February 2014. The Coroner's verdict in September 2016 was that Zane died of carbon monoxide poisoning. However, the blood test found only 8% carboxyhaemoglobin and we have never heard of a death of an otherwise healthy person dying at such a low level. The family disputes the finding and continues to maintain that Zane died of hydrogen cyanide from a flood from a landfill site, so we have not included this death. see http://www.dailymail.co.uk/news/article-3794537/Justice-Zane-New-hope-parentsblamed-death-flood-tragedy-son-MP-attacks-seriously-flawed-inquest.html

Near-Misses from Accidental Carbon Monoxide Poisoning in UK

(1 Sept 1995 - 31 Aug 2016): Total: 5233

More than 2188 requiring hospital treatment and of those over 379 had lost consciousness

95/96	96/97	97/98	98/99	00/66	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	60/80	09/10	10/11	11/12	12/13	13/14	14/15	15/16	Total
452	444	317	378	327	300	103	153	171	214	155	327	202	264	204	174	212	299	264	138	135	5233

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Gas Safety data on deaths from unintentional CO poisoning put into HSE years (1 April to 31 March)

Year	95/96	96/97	97/98	98/99	99/20	20/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	60/80	09/10	10/11	11/12	12/13	13/14	14/15	15/16	Total
Solid fuel	25	17	22	18	15	19	5	8	3	7	8	12	10	8	7	7	7	8	9	5	1	221
Gas Mains	28	24	18	23	16	17	6	13	9	13	10	9	12	15	8	12	0	4	0	4	0	241
Gas Portable	8	6	6	5	10	6	6	7	9	2	8	3	5	5	4	4	2	2	2	1	0	101
Petrol/ diesel	4	7	5	6	4	3	6	4	2	2	2	8	7	2	8	4	3	1	6	0	0	84
Oil	0	2 0	0	0	0 2	0	0 0	0	0 0	0	0 0	0 0	1	1 0	1 0	0	0	1 0	0	0	0	6 3
Paraffin Unknown	0	1	0	0	0	0	2	4	0	3	3	3	1	5	0	2	3	6	3	7	11	54
Total	65	57	51	52	47	45	25	36	23	27	31	35	37	36	28	29	15	22	20	17	12	710

Please note that HSE collect statistics for domestic/commercial gas fatalities due to both LPG and Natural Gas. Workplace CO deaths recorded could (theoretically) arise from incomplete combustion of any type of fuel. In contrast, CO-Gas Safety collects statistics with regard to unintentional CO related deaths and injuries from <u>all</u> fuels.

CO-Gas Safety data on deaths from unintentional CO poisoning put into Gas Safety Trust years (1 July to 30 June)

Year	95/96	96/97	97/98	66/86	99/20	20/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	60/80	09/10	10/11	11/12	12/13	13/14	14/15	15/16	Total
Solid fuel	26	17	26	15	17	15	6	8	5	5	7	12	10	9	8	6	12	3	9	4	1	221
Gas																						
Mains	31	22	21	24	13	16	7	12	8	14	12	7	13	17	4	12	0	4	2	2	0	241
Gas			-	-		_		_	_					_								
Portable	8	8	5	5	10	5	8	7	7	2	8	4	4	5	4	4	2	2	3	0	0	101
Petrol/ diesel	6	7	4	7	3	3	8	1	2	2	3	7	7	4	6	4	3	4	3	0	0	84
Oil	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	6
Paraffin	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Unknown	0	1	0	0	0	0	3	3	0	3	4	2	1	5	0	2	3	6	3	8	14	58
Total	71	57	56	52	44	39	32	31	22	26	34	32	37	41	23	28	20	20	20	14	15	714

Please note. CO-Gas Safety started collecting its data on the 1st September 1995 so for 95-96, the data put into HSE year (April to March) and Gas Safety Trust year (June to July) in only partial for that time period.

RIDGAS: Gas-related incidents reported in Great Britain

Table refers to gas-related incidents reported under the Reporting of Injuries, Diseases and Dangerous Occurrence Regulations (RIDDOR)

Incidents/Severity	Incident Type	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Incidents All		278	173	224	211	161	145
Incidents	Carbon monoxide poisoning	229	142	193	188	138	125
Incidents	Other exposure eg. to unburnt gas	13	7	6	3	3	4
Incidents	Explosion/Fire	36	24	25	20	20	16
Fatalities	All	17	4	10	6	6	9
Fatalities	Carbon monoxide poisoning	13	3	9	3	6	8
Fatalities	Other exposure eg. to unburnt gas	1					
Fatalities	Explosion/Fire	3	1	1	3		1
Non-Fatalities	All	428	266	353	356	240	219
Non-Fatalities	Carbon monoxide poisoning	368	226	313	329	214	195
Non-Fatalities	Other exposure eg. to unburnt gas	12	8	6	5	3	5
Non-Fatalities	Explosion/Fire	48	32	34	22	23	19

Notes:

Source: RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (as amended)

r = Revised

p = Provisional

(a) Mainly piped gas but also includes bottled LPG

(b) An incident can cause more than one fatality or injury

Regulation 11(1) of RIDDOR 2013 places a duty on certain conveyors of gas (including LPG), to notify HSE of an incident involving a fatal or major injury that has occurred as a result of the distribution or supply of flammable gas. The statistics published above are 'as reported' to HSE. When such reports are made, it is at the early stages of the incident, thus the detailed circumstances of the incident will not have been known.

Key changes to the reporting system and the legal requirements for RIDDOR have occurred in recent years. More information on data changes affecting RIDDOR statistics is available at: http://www.hse.gov.uk/statistics/riddor-notification.htm

General information on domestic gas safety is available at: http://www.hse.gov.uk/gas/domestic/index.htm

Statistics on HSE prosecutions by legislation (including gas safety) are available at: http://www.hse.gov.uk/statistics/tables/index.htm

Comment by CO-Gas Safety: Please note that although RIDDOR imposes a duty to notify HSE, it seems that HSE is under no specific duty to investigate. HSE always investigates if there is a fatality but, in our experience, does not usually investigate a mere incident or injury, unless extremely serious.

Information about CO-Gas Safety's data & validation by Dr Craggs

CO-Gas Safety reminds readers that our data is:-

1. To be Collected directly from the media and other sources with regard to <u>all</u> fuels.

2. Checked with the Coroner concerned, although of course we can't insist that the Coroners help us, but most do. We have been doing this since 1995 and have built up a good relationship with the Coroners and their officers and even attended the Coroners' conference in Autumn 2014 and addressed them about our work as well as thanked them for all the help they have given us over the years.



Photo of the CO-Gas Safety table at the Coroners' Conference 2014 and from left to right Ian Arrow, Senior Coroner for South Devon and Martin Fleming, Senior Coroner for West Yorkshire. On the 22.02.16 Stephanie Trotter had a meeting with the Chief Coroner, His Honour Judge Peter Thornton attended by Trotter, Frank Brehany and Beverley Squire, database officer. On the 14.07.16 Stephanie gave a talk about CO to the Local Authority managers of Coroners introduced by His Honour Judge Peter Thornton, the Chief Coroner. Please see link <u>http://www.co-gassafety.co.uk/resources/presen-</u> tation-to-local-authority-managers-of-coroners-offices/

3. Is widely published with the names of the dead in England and Wales published on our website so anyone can check its validity re the deaths. We obviously can't publish the near misses in the same way due to confidentiality. The deaths from CO all have a public inquest in England and Wales, so they are already in the public domain.

4. Is collected, collated and published by a victim based charity, which really cares about its accuracy.

5. Has been favourably reviewed and favourably compared to the data of the Gas Safety Trust by the independent 'Straight Statistics' headed by Nigel Hawkes, CBE, an eminent Science writer. This organisation no longer exists or has a website but a copy of this article by Nigel Hawkes can be read at http://www.co-gassafety.co.uk/data/ at the bottom.

6. Is not supporting a profit for an organisation to do this.

7. And thanks to the Gas Safe Charity, is now the only data to have been validated by an independent statistician, Dr Craggs in 2011. In summer 2014 Dr Craggs undertook a further validation and further work in 2016.

However, at the time of writing (January 2017) although we are grateful for a substantial donation received as a result of the Corfu tragedy, we still have no regular guaranteed funding to continue this valuable work. It seems from research and from talking to victims that there is also no other victim support.

Also we consider CO-Gas Safety's data is unique because in offering victim support we often find out details that would otherwise not come to light for example the fact that Matthew Nixon, aged 22, who died of CO from using a petrol generator indoors to power his tools in 2010 was a registered gas installer and in the gas industry from the age of 16. As a result, CO-Gas Safety with Roland Johns, ex British Gas

investigator and trainer has devised a course about CO which has now been taught to Scotia Gas apprentices and Northern Gas Networks see <u>http://www.co-gassafety.co.uk/information/trainers-of-gas-installers/</u>

The Near Misses are less reliable as the primary source is from newspaper reports and by the nature of Near Misses there are fewer opportunities to reliably follow-up these reports. Also due to confidentiality the charity cannot name people who have been injured but survive.

So it has been the charity's policy to concentrate on the deaths. Dr Craggs has reviewed CO-Gas Safety's data three times now. Once during 2011, in 2014 and more recently Dr Craggs in summer 2016. The 2011 Data Validation found the reliability of the paper filing system was excellent however Dr Craggs made a recommendation to move from paper to electronic filing to simplify the process. Despite lack of funding this has now been undertaken and the deaths are now on the database. It is recognised and accepted by all that the summary statistics produced by CO-Gas Safety are under-estimates of the actual numbers of victims and, for this reason, careful interpretation of CO-Gas Safety statistics is needed.

Dr Craggs in 2016 wrote 'As additional resource is presently available, the confirmation of cause of death has been tightened, with victims reported from the Health and Safety Executive and the Solid Fuel Association being followed up more thoroughly and completed Coroner's/Procurator Fiscal's Forms being requested more promptly.'

Conclusions 2016

The overall conclusions for the UK Unintentional Deaths by CO (not explosion) were:

- The highly dedicated CO-Gas Safety team have again successfully maintained the good quality of their raw data. This is particularly noteworthy as it has been compiled over a period of 21 years on a very limited budget. Following the last data review, considerable effort has been focused on transferring more paper based evidence to electronic formats, and an additional team member has allowed the confirmation of Death by Unintentional CO Poisoning to be tightened and Coroner's Forms to be followed up for further information. All these tasks are tedious and lengthy, and the team must be congratulated on their determination and relentlessness.
- The results from this Data Review provide clear evidence that the high quality of the raw data collected has been maintained. All deaths (excepting a single incident where the link was quickly retrieved) had the related incident information in the linked electronic files. As the confirmation of Cause of Death due to Unintentional CO Poisoning has been tightened up, there were 3 cases where further information was being sought from the Coroner/Procurator Fiscal. This indicates that the information collected on deaths is valid and reliable, though clearly an under-estimate for total deaths.
- The new database introduced in 2012/3 and the additional evidence transferred to electronic format has greatly enhanced the data retrieval process facilitating both ease of use and accessibility.

• The CO-Gas Safety team have planned in and undertaken the statistical advice and recommendations from the 2014 Data Review which has helped to underpin their data collection efforts.

Note by Stephanie

We have always accepted that even the deaths we record are the tip of an iceberg. There is no automatic testing of dead bodies for CO on death, even when death is unexplained. There is no coronial system in Scotland which, in our opinion means a gross under reporting of CO deaths there.

Please note that CO-Gas Safety's data is the only data on CO that has been validated by a statistician.

DR CAROLYN CRAGGS

	BSc PhD CStat FRSS Experienced statistician - consultancy and training					
	Lean Six Sigma, Operational Excellence and Quality Compliance					
	Secretary of Quality Improvement Section, Royal Statistical Society					
	Experience in a large multi-national company					
	Successful trainer with ability to develop training strategies					
Qualifications						
1993- to date	Chartered Statistician					
1980	PhD in Applied Statistics, University of Newcastle upon Tyne					
1976	BSc(Hons) Statistics (First Class), University of Newcastle upon Tyne					
1976 – to date	Fellow of Royal Statistical Society					

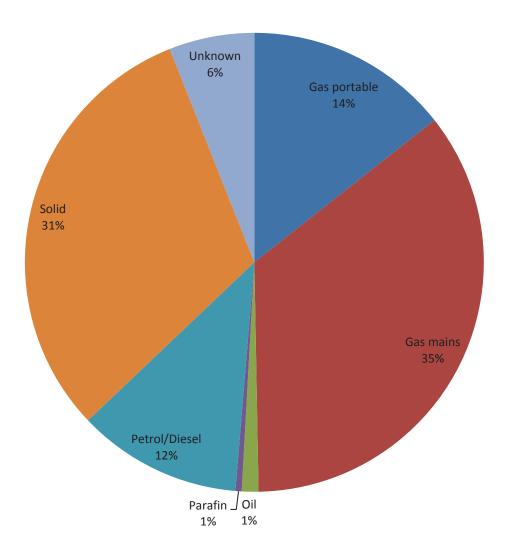
Dr Ben Croxford of UCL seems to want to work with us to review our data which is very good. However, we still have no guaranteed funding to continue to do this valuable work of collecting, collating and publishing data. Victim support, something we started with often supplies details that would never otherwise emerge let alone be recorded. We find most victims and their families think deeply about how a death or injury could have been prevented, so they are a rich research resource which seems to us to have been completely neglected, if not purposefully ignored – why?

Surely with victim support should be funded and offered along with data collection?

Everyone seems to want our data but nobody wants to fund it.

FUEL type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2016

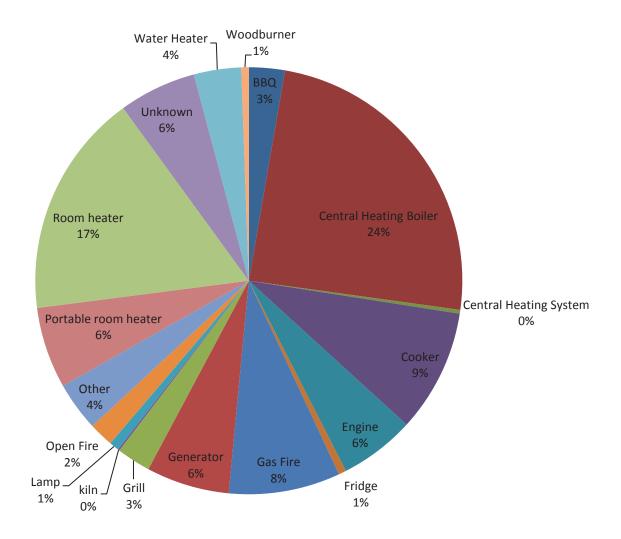
*This data is being added to regularly so chart may change.



CO-Gas Safety comment

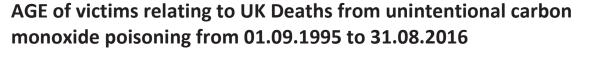
Considering the relatively small number of solid fuel users, there is a high incidence of deaths from solid fuel.

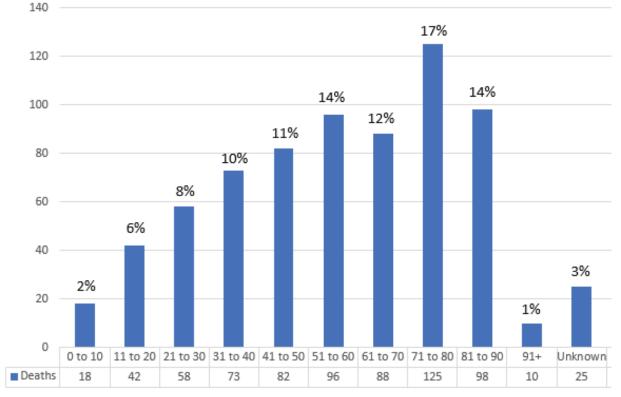
APPLIANCE type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2016



*This data is being added to regularly so chart may change.

Generator is a portable machine. 'Engine' is from a car, lorry, aeroplane or boat.





*This data is being added to regularly so chart may change.

Age Range

Census 2011

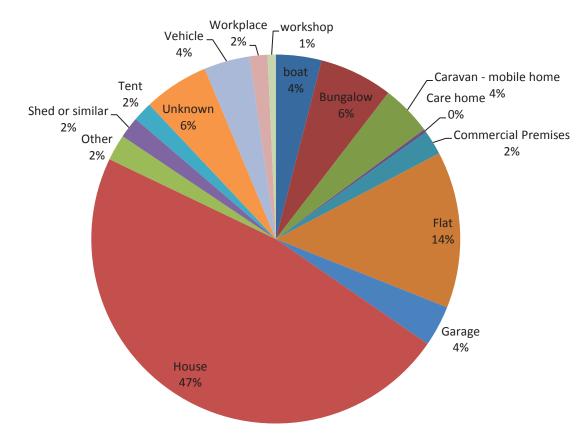
It is interesting to note that ages 71-80 make up just over 7% of the population* yet represent around 17% of the deaths. In our opinion, many deaths in this age group may be put down to 'heart attack' when they are in fact CO, because there is no automatic test of CO on death, meaning the number of deaths in this age group could be even higher.

(*Taken from ONS Table P01 2011 Census: Usual resident population by single year of age and sex, England and Wales).

The Gas Safety Trust is funding a pilot to develop a protocol to test all dead bodies for CO in three Coronial areas. It started in early 2016 and will last 12 months.

PLACE of incident that caused death relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2016

*This data is being added to regularly so chart may change.



CO-Gas Safety comment

It is easy to see that people at home are most at risk from carbon monoxide poisoning. For an example please see <u>http://www.mirror.co.uk/news/real-life-stories/thought-early-dementia-three-years-5930721</u>

Sue Westwood-Ruttledge 'I thought I had early dementia but for three years I was poisoned by carbon monoxide' Daily Mirror, 22 June 2015 Angela Cooke.

Why is so little being done to raise awareness of the dangers and to protect ordinary people who may be exposed for 24 hours a day?

Dr Ben Croxford's research at UCL (University College London) in 2006 found:

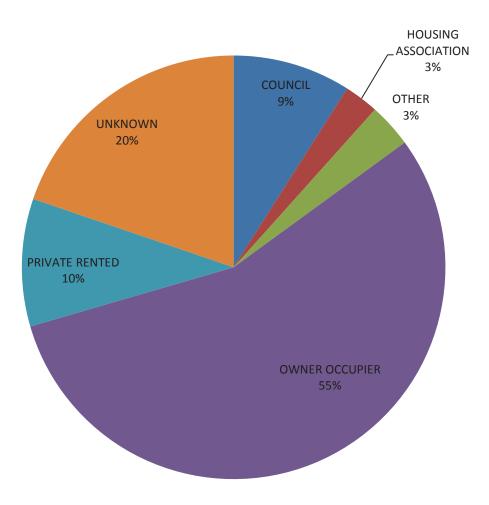
- 23% of homes had one or more defective gas appliance;
- 8% of homes were judged to be at risk of dangerous levels of CO;
- 45% of homes had received no information on the dangers of CO; and

• A higher prevalence of problem appliances was found in the homes of vulnerable people (young,

old, those in receipt of benefits). (Taken from HSE press release 2006)

TENURE type relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2016

* This data is being added to regularly so chart may change.



Tenure

According to the Communities & Local Government Dwelling Stock Estimates England 2015: There were 23.5 million dwellings in England at 31 March 2015, an increase of 171,000 dwellings (0.73%) on the same point the previous year.

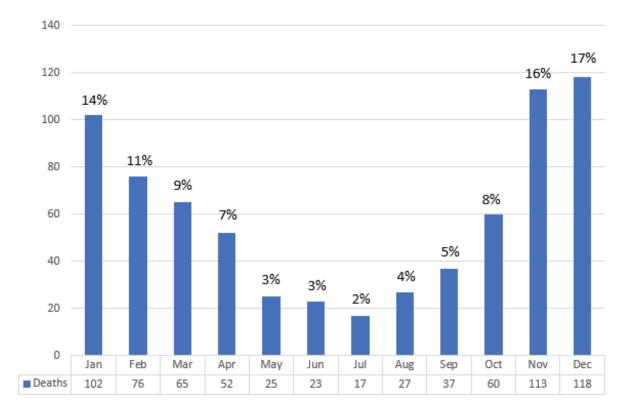
Of these, 14.7 million dwellings were owner occupied dwellings, 4.7 million private rented dwellings and 4.0 million social and affordable rented dwellings (Private Registered Providers plus Local Authority).

Comment by CO-Gas Safety

Therefore, the incidence of deaths in owner occupied property looks lower than expected, although there is quite a high incidence of unknown tenure (20%). The incidence of deaths in council owned property looks relatively high (9% deaths) while the incidence of deaths in housing associations (3%) looks low compared to the percentage of properties owned by housing associations. It would be really helpful to have even more co-operation from Coroners to record the tenure which, of course, the government could require.

MONTH of death relating to UK Deaths from unintentional carbon monoxide poisoning from 01.09.1995 to 31.08.2016

*This data is being added to regularly so chart may change.



Comment by CO-Gas Safety

It is unsurprising that the colder months of November, December and January contain the highest number of deaths.

One example page of CO-Gas Safety's 19 pages from 01.09.95 to 31.08.16 of the named people who have died from unintentional carbon monoxide poisoning

For entire list see http://www.co-gassafety.co.uk/information/deaths/

				House -			Central Heating
Morgan	Thomas	74	17/12/2006	Bungalow House -	Owner Occupier	Mains Gas	Boiler
Morris	Jacqueline	37	29/02/2000	Bungalow	Owner Occupier	Solid	Room Heater
Morris	Richard Charles	53	08/01/2003	Boat	Unknown	Petrol/Diesel	Generator
Morris	Betty	77	19/12/2010	House	Owner Occupier	Solid	Room Heater
Mudry	John	35	11/12/1995	Garage	Owner Occupier	Petrol/Diesel	Engine
Mulrooney	Elizabeth Gladys	75	11/08/2008	House	Owner Occupier	Solid	Room Heater
Neale	Gary	49	26/08/2010	Tent	Temporary	Solid	Charcoal Heater
Nelson	Emma	75	25/08/1997	House	Owner Occupier	Mains Gas	Water Heater
Newman	Amy	93	04/10/1996	House	Owner Occupier	Solid	Cooker
Newman	Coral Margaret	74	07/12/2002	House	Owner Occupier	Solid	Open Fire
Newton	Stephen David	51	29/12/2009	House House -	Private Rented	Mains Gas	Central Heating Boiler Portable Room
Nicholls	Norman	67	22/02/1996	Bungalow	Council	LPG or bottled gas	Heater
Nichols	Audrey	45	27/01/1996	Flat	Temporary	Mains Gas	Central Heating Boiler
Nimako-Boateng	Rose	59	18/04/2011	Unknown	Unknown	Unknown	Unknown
Nixon	Matthew	22	13/12/2010	Flat	Housing Association	Petrol/Diesel	Generator
				Caravan or Mobile			Portable Room
Norris	Trevor	65	20/09/2001	home	Owner Occupier	LPG or bottled gas	Heater
O Brien	Bethan Rachel	20	18/08/2013	Tent	Temporary	Solid	BBQ
O Donnell	Robert	60	07/09/2015	Flat Caravan or mobile	Unknown	Unknown	Gas Fire
O Reilly	Nan	75	21/01/2015	home Caravan or mobile	Owner Occupier	Unknown	Cooker
O Reilly	Francie	75	21/01/2015	home	Owner Occupier	Unknown	Cooker
OKeefe	Valerie	78	02/02/1998	Flat	Council	Mains Gas	Cooker
OKelly	Zocika (Zoe)	53	25/12/2008	House	Owner Occupier	Mains Gas	Cooker
ORegan	Mary Deloras	59	29/12/1998	House	Owner Occupier	Mains Gas	Gas Fire
OSullivan	Donald	73	20/04/2009	House	Owner Occupier	Mains Gas	Central Heating Boiler
OSullivan	Rosetta	70	20/04/2009	House	Owner Occupier	Mains Gas	Central Heating Boiler
Oates	Elsie	78	08/06/2001	House	Council	Mains Gas	Water Heater
Oliver	Declan Charles	19	06/02/2010	Lodging	Owner Occupier	Solid	Room Heater
Onwuegbu- Aguocha	Jeriel Okechukwu	3	13/04/2006	House	Unknown	Mains Gas	Central Heating Boiler
Onwuegbu- Aguocha	Jaden Chimaobi	1.5	13/04/2006	House	Unknown	Mains Gas	Central Heating Boiler
Otterwell	Craig	31	10/10/2009	Workshop	Owner Occupier	Solid	Central Heating Boiler Central Heating
Overton	Katie	11	29/03/2003	House	Private Rented	Mains Gas	Boiler
Owen	Evelyn Ellen Bay	83	08/11/1995	House Caravan or	Owner Occupier	Solid	Cooker
Owen	Barbara	76	02/11/2006	mobile home	Owner Occupier	Wood	Room Heater

Winners of the 2015-16 CO Awareness Competition

Wales & West Utilities

Winner Alys Thomas KS2 Teacher Head Ryan O'Neil School Ysgol Gynradd Gymunedol Gymraeg Llantrisant MP Owen Smith

Sponsored by all four GDNs N. Ireland

Winner Aoise O'Goan KS2 Teacher Principal Mrs S. Prenter School Our Lady and St Patrick Primary School MP Margaret Ritchie

Scotia Gas Networks Southern

Winner Ashton Rowey KS1 Submitted by parent directly School St James' Primary School MP Mr Alan Mak

Winner Jessie Jones KS2 School Gainsborough Primary School MP Edward Timpson

Scotia Gas Networks Scotland Winner Poppy Anderson KS1 & Overall winner of the UK Submitted by parent directly School Carolside Primary School MP Kirsten Oswald

Winner Kaiden Burns KS2 Teacher – Principal Jenny Deacon School Carron Primary School MP John McNally

Northern Gas Networks

Winner Kylie Lunga KS1 School Biggin Hill MP Diana Johnson

Winner Eleanor Grattoni-May KS2 School Ashville College Junior School MP Andrew Jones

National Grid Winner Maximillian Rodham KS1 Teacher Paul Wylie School Radford Semele C of E Primary School MP Chris White

Winner Rheanna Worthington KS2 Teacher Tricia Stevenson School Courthouse Junior School MP Theresa May, PM



Tada men your binab And i men anny to Mark? Lan the fear thirty you carry han? You and Yulf homes I have use in Educate and other Lans multile Neural fair your homes he without an Trice induce Either ana weining have Pen a fundi, percept generation Davi's bandes net instilla – Lan Carlon Municki. By Antar O'Lonn fugal 70, Rong Buncal Markow and Phalang



















Winner for Wales & West Utilities Winner Alys Thomas School: Ysgol Gynradd Gymunedol Gymraeg Llantrisant Head Teacher: Ryan O'Neil

CO-Gas Safety 22nd Anniversary Press Pack Publication of 21 years of data & winners of our CO awareness competition 2015-16 © Copyright CO-Gas Safety 2017 Please seek permission for publication by email office@co-gassafety.co.uk Permission will normally be granted to publish or use data, provided permission is sought before publication, publication is not for profit, the source of the data is stated, our website www.co-gassafety.co.uk is quoted on all material used and a copy of the document in which the data is to be used or quoted is provided to the charity free of charge.

Page 47

Carbon Monoxide

I am a horrible poison Take me in your breath And I can cause you Death!

I am the fear that you can't hear You can't tell because I have no smell I have no colour but I can smother.

Never let your home be without an alarm This silent killer can seriously harm I'm a threat, have you guessed me yet?

Don't breathe me inside – I am Carbon Monoxide.

By Aoíse O'Goan (aged 10, Rang 6) Bunscoil Mhuire agus Phádraig

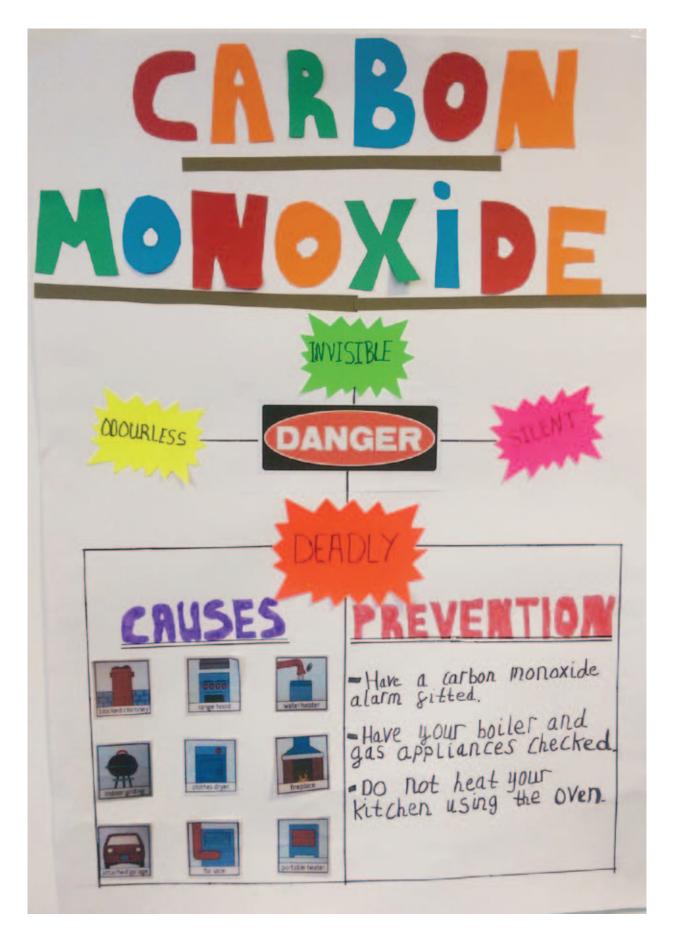
Winner for N. Ireland Sponsored by all four GDNs N. Ireland Winner Aoise O'Goan KS2 School: Our Lady and St Patrick Primary School Teacher: Principal Mrs S. Prenter



Winner for Scotia Gas Networks Southern Ashton Rowey KSI School: St James' Primary School



Winner for Scotia Gas Networks Southern Winner Jessie Jones KS2 School: Gainsborough Primary School

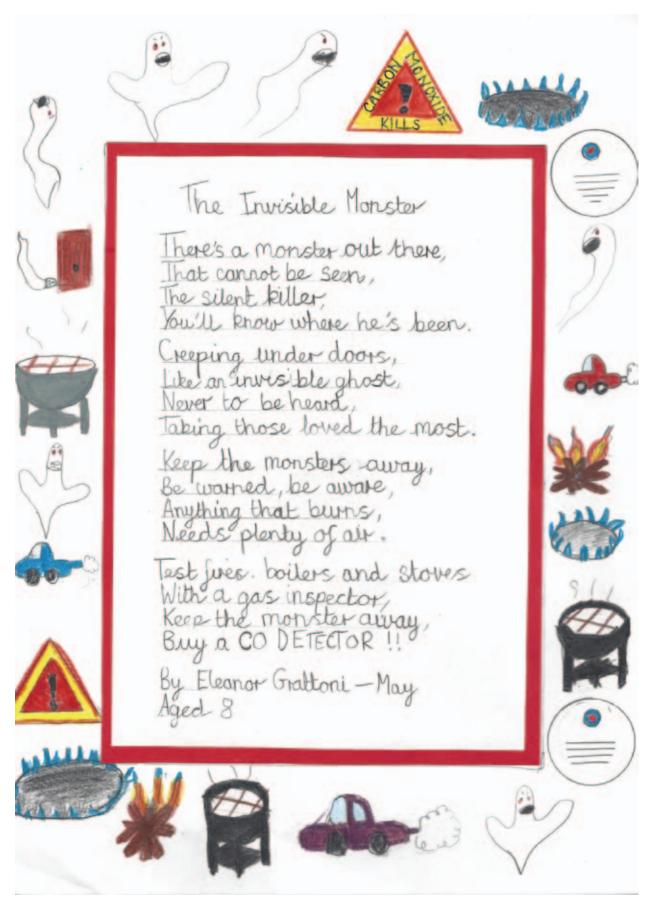


Winner for Scotia Gas Networks Scotland Winner Kaiden Burns KS2 School: Carron Primary School

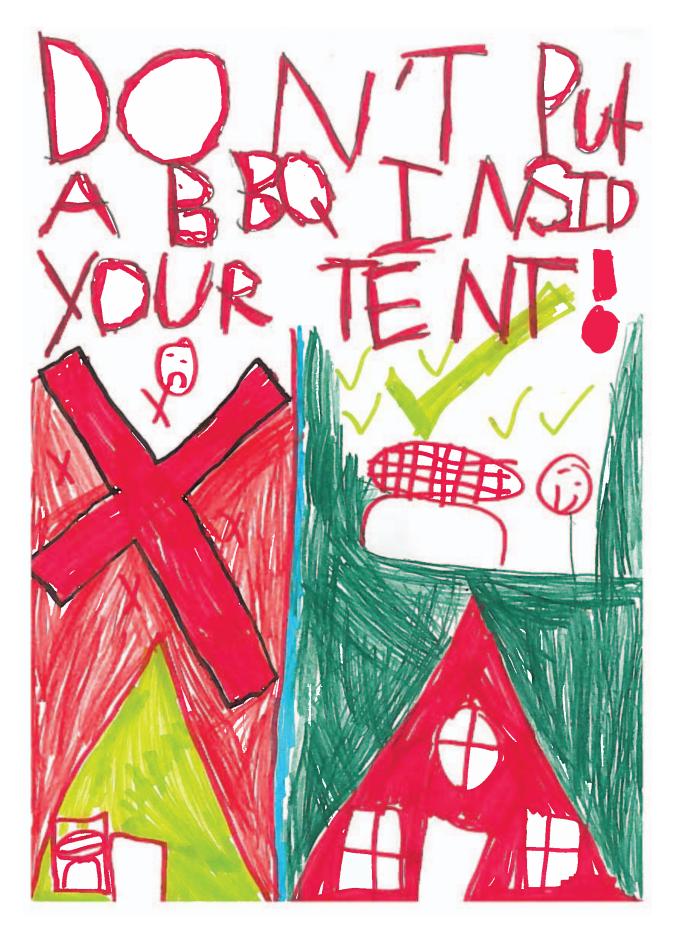
Teacher: Principal Jenny Deacon

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Winner for Northern Gas Networks Winner Kylie Lunga KSI School: Biggin Hill



Winner for Northern Gas Networks Winner Eleanor Grattoni-May KS2 School:Ashville College Junior School



Winner for National Grid Winner Maximillian Rodham KSI School: Radford Semele C of E Primary School Teacher: Paul Wylie

Page 54

The Silent Killer

From carbon Monoxide People have died It has no smell You can geel very unwell Always check your Appliances every year cookers, gas, gires do not live In gear If you don't listen It could be to late Call in a proggessional not a cowboy mate: Get a co alarm It will keep you sage grom harm It will warn you is somethings Wrong Remember there is no pong!

BY Rheanna worthington

Winner for National Grid Winner Rheanna Worthington KS2 School: Courthouse Junior School Teacher: Tricia Stevenson

CO-Gas Safety 22nd Anniversary Press Pack

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is quoted on all material used and a copy of the document in which the data is to be used or quoted is provided to the charity free of charge.

Gas Distribution Networks - Summer prize giving event at the House of Commons



Barry Sheerman MP, Chair of the All Party Parliamentary Carbon Monoxide Group



John O'Leary Artist for CO-Gas Safety & CO Survivor



Tom Bell Northern Gas Networks



Aoise O'Goan - winner for N. Ireland with Robbie Stevenson, Scotia Gas Networks.



Aoise O'Goan and her family



Ashton Rowey and family

Press releases

National Grid

 $\label{eq:http://media.nationalgrid.com/press-releases/uk-press-releases/corporate-news/calling-budding-young-artists-poets-and-designers-use-your-talent-to-target-the-silent-killer/$

Northern Gas Networks

http://www.northerngasnetworks.co.uk/2017/01/calling-budding-young-artists-poets-and-designers-use-your-talent-to-target-the-silent-killer/

ENA

http://www.energynetworks.org/news/press-releases/2017/january/uk-schools-encouraged-to-get-creative-in-promoting-carbon-monoxide-awareness.html

CO-Gas Safety 22nd Anniversary Press Pack

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is quoted on all material used and a copy of the document in which the data is to be used or quoted is provided to the charity free of charge.

The Future of the CO Awareness Competition for Primary School aged pupils

CO-Gas Safety launched the competition in 2007. Until 2012 we do not think we had any financial support from the GDNs. Danielle Royce from Wales & West Utilities was a huge help in 2014 and since then there has been some financial support although none since 2015.

This last year 2015-16 we have tried to work in partnership in that we have helped the GDNs by advising them on matters such as the Rules, helped them with John O'Leary as advisory judge of the competition and have been generally on hand to advise. We hoped we helped to show the GDNs how to put across the concept of the killer, carbon monoxide to primary aged children.

CO-Gas Safety paid for an advertisement about the competition in First News in March/April. This children's newspaper goes to all primary schools. The GDNs declined to sponsor this. However, the GDNs have done the work and paid the expenses for 2015-16 apart from this advertisement which they deemed unnecessary because they went into local primary schools and talked to teachers directly. It is a huge advantage to have companies that are more locally based and we do hope they will continue to do this in the future.

We are delighted that the CO awareness competition for primary aged pupils is going to continue.

Our aim was always to persuade the industry to continue what we started.

The event at the House of Lords was great fun but it was also as much work as the wedding of a favourite daughter every year!

A Big Thank You to all our Sponsors and Supporters!

These include:-

The Trustees and particularly Sue Ruttledge who despite being ill for a great deal of the year was always up for anything I asked her to do and Paul Overton and especially Jonathan Kane, who has been a great support as usual this year.

Frank Brehany of Holiday Travel Watch whose quiet counsel and endless support is so welcome.

John McNally MP, who has asked a Parliamentary question and seems committed to this topic!

Christine Bridge of HSE who has been very helpful throughout the year.

John O'Leary who has been ready to help whenever I've asked. His work on the judging and the posters has been invaluable.

Belinda who has helped me despite being run off her feet with all sorts of things.

Lawson Wight and Mark Aylett and all at the Guild of Master Sweeps, who provide fantastic support in every way and huge commitment to saving lives and preserving health.

Dr Ben Croxford of UCL, Tom Woolley and Jim Lambeth for caring about this issue.

Roland Johns, who has worked so hard on our awareness courses and is an unfailing support.

Adrian McConnell, who somehow always finds time to talk to me and tries hard to be positive.

Chihiro Nagano, one of our past winners who keeps in touch and inspires me with her attitude and brilliant pictures.

Npower for sponsoring our press pack this year.

Page 57

UK schools encouraged to get creative in promoting carbon monoxide awareness







Kylie Lunga and her teacher





Jessie Jones and her mum

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At npower, our customers are our top priority. And the most important thing is to make sure all our customers use energy safely and efficiently. That's why we're working with CO-Gas Safety, the Carbon Monoxide and Gas Safety Society to raise awareness of the dangers of carbon monoxide (CO) poisoning, and to encourage different approaches to tackle this silent killer.

To support 2016 Carbon Monoxide Awareness Week, npower launched a short film to really bring this issue to life for young families: featuring six children from Brighton, the film asked them to imagine what the deadly gas would look like if it wasn't invisible. To view the film and hopefully pass it on to family, friends on Facebook or social media etc. please see https://www.youtube.com/watch?v=IFAJP3KOdW0

Within a few weeks, it was viewed nearly quarter of a million times. We want to continue to build on this - to help increase the UK's awareness of CO poisoning, because whether you have a coal fire, a gas boiler or a log burner, use a barbecue or have diesel generator, being CO aware is essential. Please see further information at www.npower.com/co-safety

May we congratulate the Carbon Monoxide and Gas Safety Charity in the work they do and the dedication they show - and we are pleased to sponsor this, their annual report.

Matthew Cole

Head of social energy, npower

CO-GAS SAFETY CONGRATULATES NETWORK RAIL!

NETWORK RAIL has put out some excellent prime time TV warnings for 9 deaths a year on footpath railway crossings.

http://road.cc/content/news/68534-new-tv-advert-highlights-level-crossing-danger-cyclists-andwalkers-video

Network Rail campaign urges crossing users to "See track: Think train"



Reproduced by kind permission of Network Rail & thanks to Rob Kirk of the marketing department

Interesting article showing a reduction in deaths and injuries http://www.bbc.co.uk/news/uk-26478145

Will the fuel industry please pay for prime time TV warnings for at least 40 CO deaths a year?

CO is such a hidden, unknown danger

There are almost certainly many more deaths that are never diagnosed as CO and deaths caused or contributed to by the other toxins in the products of combustion (CO+)

Concerns for the air we are breathing now!

Mary Poppins scolds government as annual air pollution limits broken just five days into 2017 http://cleanair.london/legal/brixton-road-breaches-no2-hourly-legal-limit-for-2017-in-five-days/



Reproduced by kind permission of Greenpeace

Janez Potočnik, European Commission for Environment at the launch of the EEA's Report on Air Quality 2013 said:-

'If you think the economy is more important than the environment, try holding your breath while counting your money.'

http://europa.eu/rapid/press-release SPEECH-13-822 en.htm

Please read article at <u>http://www.nature.com/nclimate/journal/v6/n5/full/nclimate2935.html</u> Drew T. Shindell, Yunha Lee and Greg Faluvegi This article basically states that clean energy policies would save lives and that the benefits are likely to exceed the costs.

> Please listen to Midweek Libby Purves Radio 4 11.01.17 http://www.bbc.co.uk/programmes/b087rk62#play

at 24.31

Peter Willcox Captain of Rainbow Warrior said:-'I wake up every day angry that Exxon mobile knew about the risks of global warming 40 years ago and spent billions to bury it, lie about it and all for money' Please also read <u>http://exxonknew.org/</u>

In our opinion what CO-Gas Safety is asking for is so reasonable, yet we are being ignored by the very institutions that the electorate set up to make sure there is a body responsible to take action to save lives and preserve health.

Theresa May, Prime Minister

in 2010

(then an MP, just a few months before being appointed Home Secretary)

with her constituent and winner

Charlotte Pugsley



This press pack is dedicated to the memory of all those who have tragically died or suffered from carbon monoxide poisoning and other products of combustion (CO+), their families & friends and all the many people who have helped CO-Gas Safety from 1995 to today and onwards!