

HAZARDS CAMPAIGN



Air Pollution: A Trade Union Issue

Air pollution is Public Health AND Occupational Health Emergency
We work/live in toxic cocktail of chemicals including traffic pollution
Need Integrated Action to cut toxic substances at all levels
System Change, Radical Change: Green New Deal
Trade Union involvement at work is vital



Air pollution: We are all at risk but some more than others

- All at risk: @work @home @school, in the environment- but not equally
- Double, triple whammies: workers in worst jobs exposed at work, often live nearer worst traffic pollution, near old industrial contaminated sites, and have children at schools in most polluted areas... and our sperm, eggs and developing foetus exposed to toxic soup of substances in the air at work, at home, while travelling – multiple and generational exposures
- Children among the worst affected by air pollution.- height puts them closer to car exhausts, growing bodies more susceptible to many pollutants, particularly vulnerable to health risks including asthma, reduced lung capacity, impaired brain & other development issues, reduced life expectancy & higher risk of developing cancer. Young people may suffer depression/psychosis
- Richer folk can buy cleaner air to live, work & send kids to school in
- Air pollution is an Equality, Social Justice, Just-Transition, Fairness issue
- It's about us as workers, and our children, our families and future This makes it a Trade Union Issue

Just Transition

- All solutions must be fair, just and reduce health /income /social inequalities not make them worse or penalise the poorer
- Poorer workers must not be made to pay the price for air pollution solutions –e.g. banning older polluting cars, congestion charging, car park fees at work etc. which do not taken into account & make adjustments for social/income inequalities
- Poorer workers drive older more polluting cars, public transport may be inadequate, not run during unsocial hours working
- Many people need cars -rural workers where public transport inadequate, disabled people, families with disabled, sick or elderly members
- Need subsidies for poorer workers to buy cleaner cars e.g. proposed Labour Party Electric Car scheme?
- Jobs must not be lost
- Trade Unions must be involved in decisions to ensure Just Transition

Trade Union Clean Air Charter

Trade Union Clean Air Network Charter

Trade unions need a response to the public health emergency and also the occupational health emergency of air pollution. Over 40,000 people die each year in the UK where the outdoor air that they breathe is a major contributory factor. Thousands of people will also die because of occupational diseases caused by air pollution at work. Pollution arising from work and travel to work are health issues for which employers take little responsibility. There is hardly any recognition of this in national and local authority strategies. This is an issue for workers and their families at all stages from before birth to old age and particularly damaging the growth and development of babies and children. This charter provides a framework for unions to campaign for the health and environmental concerns of workers. We call on the Government to:

1. **Introduce a New Clean Air Act that enshrines the right to breathe clean air.** It must set stringent legal limits for ambient air quality, which reflect WHO (World Health Organisation) guidelines. There should be recognition that air pollution is an occupational health issue. Employers must be required to make Environmental Impact Assessments on the pollution related to their work activities. They should have a duty to prevent strategies for minimising and eradicating pollutants within the workplace and in the wider community.
2. **Update Health and Safety Law** - The COSHH (Control of Substances Hazardous to Health) Regulations and related guidance should be amended to reflect new research on indoor and outdoor air pollution. This includes amending Workplace Exposure Limits to place duties on employers to monitor and adopt control measures for diesel and other toxic vehicle emissions not currently covered by HSE (Health and Safety Executive) EH40.
3. **Ensure effective enforcement** - Strict enforcement by relevant agencies of the occupational and environmental legislation with the power to hold public bodies and employers to account. Representatives of the trade union movement must have seats on the relevant agencies.
4. **Involve the workforce** - Air quality measures for indoor and outdoor occupational air pollution must be subject to the consultation requirements of the Safety (Health and Safety Committees) Regulations. Measures should cover both employees and others, and especially the needs of vulnerable occupants of buildings, including in particular children and young people. Employers should be required to raise awareness and support workforce training on risks and control measures. Workers may need access to independent advice on exposure levels and health effects.
5. **Protect jobs** - Government and employer clean air strategies will have implications for jobs and employment. The application of Just Transition principles, including consultation and negotiation with appropriate and industry unions, must include full equality impact assessments, to ensure positive and fair outcomes for all workers.
6. **Rapidly expand clean and inexpensive public transport systems alongside investment in active transport to increase levels of cycling and walking** - Clearing up air in the UK will require significant public expenditure. Government should drive the policies to ensure that those least able to afford it are not expected to pick up the bill, and to subsidise measures for less polluting forms of energy and transport, including affordable public transport. This will encourage more integrated and more active forms of transport.

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TUCAN Charter: Framework for Unions to act Occupational Health/Env. concerns of workers

- >40,000 die p.a. in UK due to external air pollution and millions made ill- lung, heart, cancers + more
- Ten of thousands die of cancer, heart and lung disease etc. due of exposure to air pollution at work and millions made ill
- Air pollution due to work activity + commuting = major health issue employers & national /local strategies ignore, must be tackled together
- Important issue for workers/families from before conception to old age, damaging for growth/development of babies & young children

Guidance on Air Pollution for Union Reps

<http://www.greenerjobsalliance.co.uk/wp-content/uploads/2019/06/TUCAN-Guidance-for-TU>

Air Pollution – all in a day's work?
Having decent work means being able to breathe clean air at work. The reality for most workers is that the air they are exposed to at work and on the work journey is polluted. There is very little acknowledgement of this in most government and local authority clean air policies. Government strategy is essentially an exercise in kicking the can down the road by delaying vital measures or passing it over to local authorities to sort out.

Air pollution is an occupational health issue
There is rightly a public outcry about air pollution as a public health emergency. But it is also an occupational health emergency. The World Health Organisation (WHO) make it clear that having decent work means being able to breathe clean air at work. They estimate that occupational exposure to air pollution at the workplace causes more than 860,000 deaths worldwide each year. Outdoor workers are particularly vulnerable to ambient (outdoor) pollution, at least 1-2 billion workers work outdoors most of their work time.

Air pollution is mainly caused by work-related activities
Yet you wouldn't think this was the case if you read all the consultation documents and public policy pronouncements on the subject. Even many of the environmental organisations who are campaigning for clean air fail to properly acknowledge this fact. Transport is responsible for over half of pollutants, and most of these journeys are directly or indirectly related to work activities. When you factor in the pollution generated by other business activities linked to production and energy use it is clear which is the number one source compared to domestic and other factors.

Air pollution is a trade union issue
If work is the main source of pollution it follows that this is an issue for unions. Workers are exposed to harmful levels in their journey to and from work, and in the workplace itself whether it is indoors or outdoors. The range of pollutants and building design mean that it will be a combination of both, and that one source will often increase exposure levels in the other. Unions have a vital role in improving health and safety standards and air pollution is no exception.

Air pollution is a climate change issue
Although they may seem to be two very different issues, climate change and air pollution are closely interlinked, so by reducing air pollution we also protect the climate. Air pollutants include more than just greenhouse gases—principally carbon dioxide but also methane, nitrous oxide and others—but there is a big overlap: the two often interact with each other. For instance, air pollution in the form of particulate matter from diesel engines is circulated around the globe, ending up in the most remote places, including the polar regions. When it lands on ice and snow it darkens them slightly, leading to less light reflected back into space, and contributing to global warming.

Air pollution is a social justice issue
In addition to their occupational exposure, many workers live in neighbourhoods that have higher levels of pollution. They are more likely to live near major roads and poorer quality green spaces. Unions will also need to campaign for measures to reduce pollution don't unfairly penalise those on lower incomes. Transport and energy pricing policies should be based on around progressive taxation policy. Equally clean air policies must be assessed against their impact on jobs to ensure that just transition principles are applied.

Air pollution is a campaign issue
The laws and enforcement protecting workers from air pollution is deeply flawed. A new Clean Air Act and backed up by improvements in health and safety law should be enacted. Unions working with other campaigners will need to ensure any statutory framework is effectively enforced. At a regional and local level unions can form alliances that monitor and improve standards for their local communities.



TUCAN CHARTER: Demands on Government

<http://www.greenerjobsalliance.co.uk/air-pollution/>

1. New Clean Air Act enshrining right to breathe clean air @ work too: *Workers have been the canaries*
 2. Update Health & Safety at Work Law
 3. Ensure effective enforcement
 4. Involve the workforce
 5. Protect Jobs
 6. Rapidly expand clean, cheap public transport systems plus increasing cycling and walking
- <http://www.greenerjobsalliance.co.uk/wp-content/uploads/2019/04/GJA-TU-Clean-Air-CharterEMAIL.pdf>

Action at work

Find out the current state of play by discussing workplace air pollution with members and other reps. You may want to use the checklist below to help you get an overall picture. Obtain access to current policies or procedures. You may need to contact a member of management to provide some of the information. To start with focus on those areas, workers or jobs that may be at particular risk.

You may find useful information by contacting local organisations. This could include the local authority who should have an air quality action plan that may provide information on monitoring stations near to work locations. Community and campaign groups may also have access to useful information and resources.

Air pollution checklist for union reps

Topic	Yes / No	Comments
1. Pollution hotspots – Are there any specific areas where you feel there may be a risk from air pollution?		
2. Groups of workers – Are there particular types of jobs that are at risk from air pollution, or vulnerable workers who may have pre-existing conditions that put them at risk?		
3. Policy – Is work-related air pollution referenced in the health and safety policy and / or any other policy document?		
4. Indoor exposure levels – Have measurements been taken of pollution levels inside the building?		
5. Outdoor exposure levels – Have measurements been taken of pollution levels outside the building?		
6. Changes to work activities / infrastructure - Does your employer carry out environmental impact assessments on air pollution related to future plans? i.e. any changes to sites, buildings, work processes, anything that could impact the environment physically.		
7. Hazard identification – Have hazards associated with air pollutants been identified?		
8. Control of Substances Hazardous to Health (COSHH) Risk assessment – Has a risk assessment been undertaken for hazards where there is a risk to workers and / or others		
9. Consultation – Has there been a discussion about air pollution at the health and safety committee or any other joint management / union forum?		

10. Employer information – Has the employer provided any information to staff about risks of air pollution in specific locations or travel routes, or jobs and groups of workers?		
11. Trade Union information – Has your union developed any policy or guidance on work-related air pollution?		
12. Branch lead – Is there anyone in the branch who is co-ordinating union work on air pollution?		
13. Membership awareness – Has any information been provided by the union on air pollution risks?		
14. Links with external organisations – Have any links been made with campaign groups to get support for information, monitoring, local authority measurements and related policies?		
15. Obtaining data on pollution levels – Are you interested in testing pollution levels in your workplace and / or receiving information on monitoring sites near your location?		
16. TUCAN – Are you interested in working towards the aims of the TUCAN charter by running or becoming involved in an event to promote it?		

Air Pollution sources of information
TUCAN – Clean Air Charter <http://www.greenerjobsalliance.co.uk/wp-content/uploads/2019/04/GJA-TU-Clean-Air-CharterEMAIL.pdf>
Greener Jobs Alliance - Air pollution online training modules. Free of charge and no registration required <http://www.greenerjobsalliance.co.uk/courses/>
Bi-monthly newsletter with regular air quality updates
Hazards - Hazards Magazine Diesel special: www.hazards.org/
Fuming <http://www.hazards.org/chemicals/fuming.htm>
Diesel oil Prevention Factsheet <http://www.hazards.org/chemicals/dieseloil.htm>
Die diesel die poster: <http://www.hazards.org/images/144dieposter144x90.jpg>
Hazards 144, October-December 2018 Hazards Infographic: Careers and their work causes <http://www.hazards.org/pages/144stage/careersstage.pdf>
TUC - Diesel Exhaust in the workplace Guide <https://www.tuc.org.uk/sites/default/files/DieselExhaustWorkplace1.pdf>
Individual union resources – Check your union web site
Hazards Campaign – www.hazardscampaign.org.uk
Friends of the Earth <https://www.foe.org.uk/campaigns/air-pollution>
UN Air pollution and climate change resources <https://www.unenvironment.org/news-and-stories/story/air-pollution-and-climate-change-two-sides-same-coin>
Client Earth <https://www.clientearth.org/air-pollution/>
British Lung Foundation <https://www.blf.org.uk/your-voice-for-your-air-pollution>
British Safety Council <https://www.britsafe.org/campaigns/air-pollution-to-breathe-the-air-pollution-campaign/>
Kings College London Air Quality Network <https://www.londonair.org.uk/LondonAir/Default.aspx>
Global Action Plan <https://www.globalactionplan.org.uk/clean-air/about-clean-air/>



What is air pollution?

- News/Political Agenda = **External, Traffic Pollution** therefore **Environmental & Public Health issue – 40,000 deaths p.a.**
- Road/traffic air pollution is also a **Workplace & therefore Trade Union Issue:**
 - **Directly:** workers working in traffic/vehicle pollution inside/outside workplaces: drivers, roadside, construction & other outdoor workers; for those working with vehicles inside workplaces – train stations, airports, logistics, farms, warehouses, post office, repair shops, drive thru' fast food
 - **Indirectly:** for those working/going to school/commuting to work/ living on polluting roads- Internal air come from outside
- **Non-Traffic Air Pollution:** created by work activities; affects workers & if/when it gets out affects public, other workers e.g. factory fumes, incinerator plumes, energy generation by coal, gas, biomass fumes; waste/recycling fumes/dust, extractive industries, fracking, other workplaces; domestic woodstoves & other solid fuel burning.
- **Air Pollution is therefore an Occupational and Public Health Emergency**

Air Pollution @work

- Any harmful fumes, aerosols, dust, microbes, gases in air that can be inhaled, ingested or absorbed through skin; ALL substances if they are very small -PM 2.5 micron diameter & smaller; PM 0.3 absorbed directly through skin
- Elements like lead and arsenic; Minerals such as asbestos and silica;
- Compounds and mixtures such as pesticides or solvents, cleaning agents, fragrances, personal care- pollution effect almost equal to traffic pollution?
- Biological agents - viruses, bacteria, fungi and prions;
- Second hand tobacco smoke, spice/psychoactive drugs.
- Endocrine Disrupting chemicals EDCs – plasticisers , fire retardants, etc
- **Diesel exhaust emissions/ all vehicle emissions: Nitrogen oxides, NOx, Carbon Dioxide, CO2, Carbon Monoxide ,CO, Hydrocarbons e.g. Poly aromatic hydrocarbons , PAHs, Particles/soot – Carcinogens, EDCs-**
- New hazards such as plastic fibres e.g. from fleeces/carpets/tyres ; nanoparticles
- Furniture, carpets off gassing, flame retardants, antimicrobial dust etc

Workplace exposure to hazardous substances in air causes illnesses:

- Lung and heart disease
- Cancer of all organs of the body
- Liver and kidney disease and impairment
- Reproductive disorders and birth defects
- Neurological disease and impairment of intelligence
- Endocrine disruption – diabetes, obesity, cancers
- Developmental problems of children- In utero/childhood- miscarriages, low birth weight
- Autoimmune illnesses - Lupus, arthritis, Wegners Granulomatosis
- Dermatitis and other skin diseases
- Asthma, allergies, sensitisation and irritation of eyes, skin, respiratory systems
- Multiple Chemical Sensitivity
- Dementia, Depression

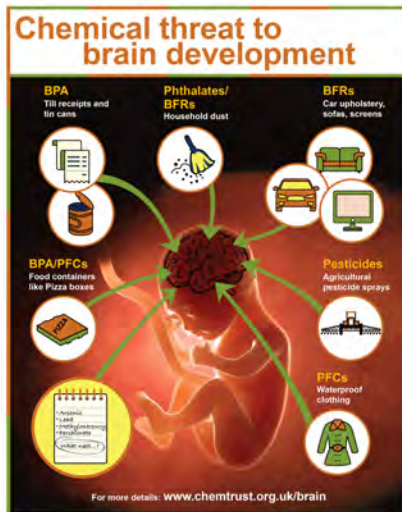
Chemicals in workplace air

- **Asbestos-fabric of buildings built/renovated <year 2000- demolition, renovation, tradesman, teachers, schoolchildren-** mesothelioma, lung cancer, asbestosis, pleural thickening
- **Flour & tea dust, moulds, microbes, isocyanates** cause asthma, respiratory irritation and sensitivity
- **Cleaning chemicals & personal care products, fragrances** cause skin, eye and respiratory irritation, hormone disrupting disorders and cancers
Diesel fumes, silica, wood dust, paint, hair dyes cause cancers
Endocrine disrupting chemicals (EDCs) found in plastics, pesticides, cleaning products, canning, automotive work, food & many other products cause endocrine system problems- diabetes, obesity, reproductive system cancers, developmental disorders, cognitive and brain damage to foetus – see EDC Dirty Dozen
Organic Solvents cause skin, eye, respiratory and neurological illness – damage to memory, thinking, personality, mood
- **Dust generally including office dust** – heart disease, strokes,

Deadly Work Exposure to substances every year in the UK:

- Hundreds of thousands of workers made ill, tens of thousands killed by hazardous work substances.
- Every one of these illnesses/deaths is preventable.
- Hazards Campaign estimates: **18,000 work cancer deaths** – chemicals, shift work; **20,000 deaths from heart disease** – stress, long hours chemicals, dust and fumes; **12,000 deaths from lung, neurological and other illnesses** caused by chemicals, dusts, fumes.
- Majority of those **50,000 work deaths** caused by exposure to substances in the air at work - mostly work activity exposure
- And we must now also include pollution of air outside workplace - traffic pollution especially – killing **40,000 to 50,000 in UK** and 4.5 million (7 million inc. indoor air pollution) globally

Endocrine Disrupting Chemicals -EDCs – some in vehicles fumes, much in indoor air too



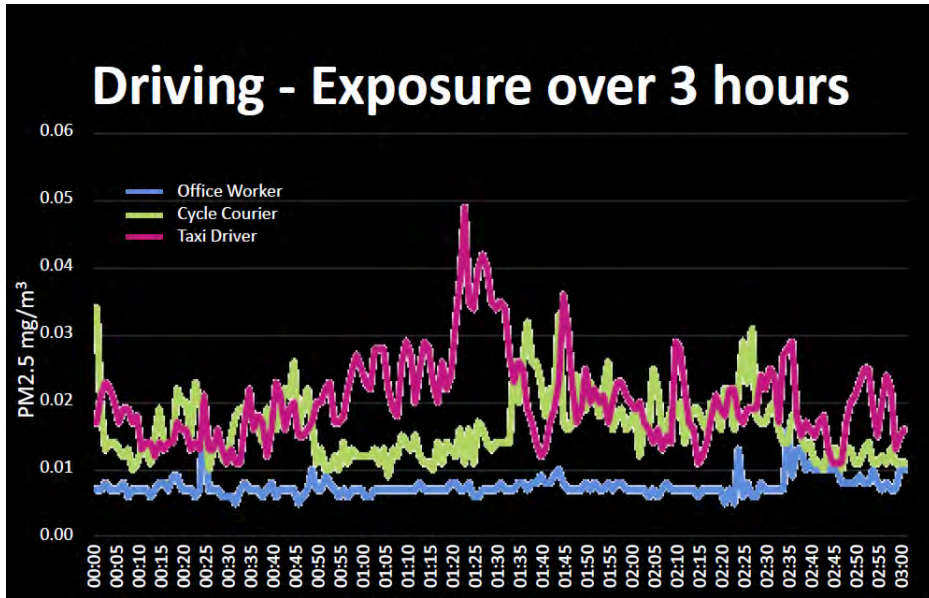
- Bis Phenol A- BPA
- Dioxins
- Atrazine
- Phthalates
- Perchlorate
- Fire Retardants
- Lead
- Arsenic
- Mercury
- Perfluorinated chemicals
- Organophosphate pesticides
- Glycol Ethers

Rail Maintenance



The Control of Substances Hazardous to Health (COSHH) Regulations

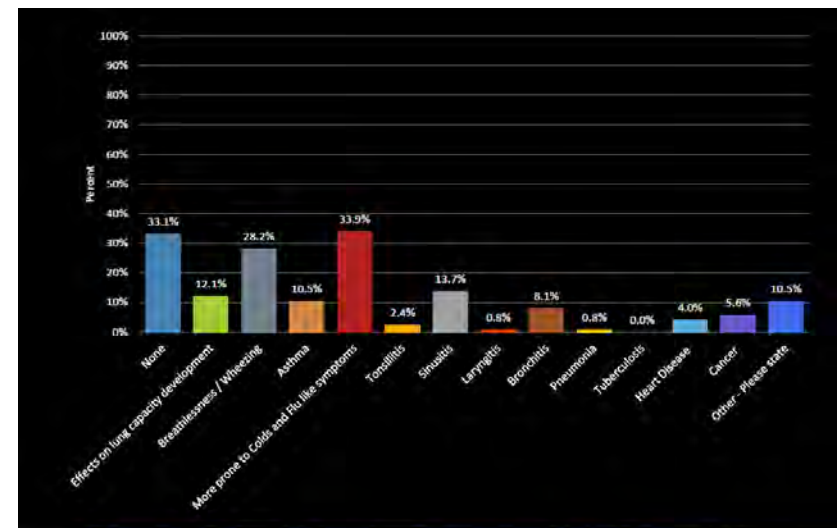
- **The Control of Substances Hazardous to Health (COSHH) Regulations** employers must **risk assess** all substances and **prevent exposure of workers to substances that harm their health at work**. There are also specific Regulations covering exposure to Asbestos and Lead.
- **Is substances are harmful to health then employers must use the COSHH Control Hierarchy:**
- **Identify** all substances used at, or arising in the course of, work– dust, fumes, gases, combustion & by-products
- **All workplaces** - get your employer to carry our air monitoring – what’s in the air, how much and what size particles?
- **Assess** their risks, and if they are hazardous to health - in short or long term e.g. carcinogenic, irritant, corrosive, asthmagenic, mutagenic, reproductive toxins, **then employers must:**
- **Eliminate or substitute** with safer substances. Think creatively.
- See <http://www.subsport.eu/> - **If this is not possible, then**
- **Use engineering & other controls** to prevent exposure of all workers— isolate, enclose, local exhaust ventilation - and
- **Only as a last resort** use Personal Protective Equipment



UNITE has a Diesel register



Diesel related ill-health reports



Some of the chemicals in diesel exhaust – No Work Exposure Level for Diesel fumes

Acetaldehyde; acrolein; aniline; antimony compounds; arsenic; benzene; benzopyrene; beryllium compounds; biphenyl; bis(2-ethylhexyl) phthalate; 1,3-Butadiene; cadmium; carbon dioxide; carbon monoxide; chlorine; chlorobenzene; chromium compound; cobalt compounds; cresol; cyanide compounds; dibutyl phthalate; dioxins; dibenzofurans; 1,8-dinitropyrene; elemental carbon; ethylbenzene; fluoranthene; formaldehyde; inorganic lead; manganese compounds; mercury compounds; methanol; methyl ethyl ketone; naphthalene; nickel; 3-nitrobenzanthrone; 4-nitrobiphenyl; nitrogen oxides; organic carbon; phenol; phosphorus; polycyclic aromatic hydrocarbons; pyrene; propionaldehyde; selenium compounds; styrene; sulphur compounds; toluene; water; xylene.

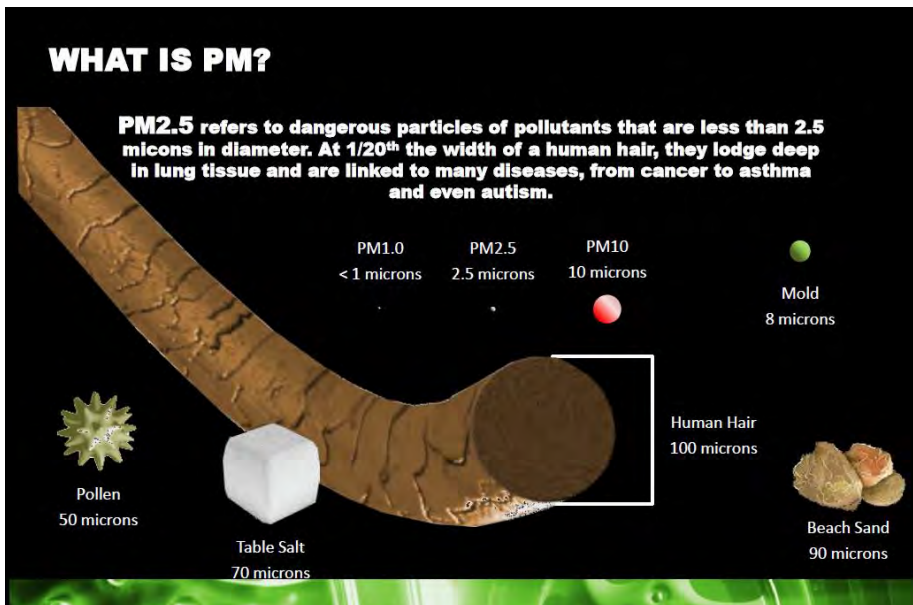
UK/WHO ambient air exposure standards for PM & NO²

Particulate Matter (PM2.5)	Annual mean	
UK (except Scotland) Exposure standard	25 µg/m³ WHO =10 µg/m³ (25 µg/m³ 24hr mean)	
Scotland Exposure standard	10 µg/m³	

Particulate Matter (PM10)	24 hour mean	Annual mean
UK (except Scotland) Exposure standard	50 µg/m³ not to be exceeded more than 35 times a year	40 µg/m³ WHO = 20 µg/m³ (50 µg/m³ 24 hr mean)
Scotland Exposure standard	50 µg/m³ not to be exceeded more than 7 times a year	18 µg/m

Nitrogen Dioxide (NO ₂)	One hour mean	Annual mean
UK Exposure standard	200 µg/m³ not to be exceeded more than 18 times a year	40 µg/m³ = WHO

Size matters: the smaller the more dangerous to health. Soot particles found in placenta and foetus



DUST: Never just a 'nuisance' depends on substance/size of particulate matter (PM)
Inhalable Dust = 100 microns & less
 Over 10 microns (PM10) filtered out by nose/throat
Thoracic dust = 10microns & below, gets to lungs
Respirable dust = 5 microns (PM5) and below, gets deep into lungs
 WHO say: **PM2.5 microns & less** absorbed into blood crosses blood brain barrier – **NO SAFE LEVEL**
0.3 microns are absorbed through skin
WELs- Work Environment Limits about 500 in mg/cubic metre, not safe levels

1 micron = 1 thousandth of millimetre, 1 millionth of metre. PM10 = particle matter with diameter of 10 microns. Nanometre = 1 billionth of a metre smaller than a virus, size of DNA strand . Nanoparticles of carbon/any material far more hazardous than normal carbon dust



Diesel special: www.hazards.org/
 A dirty industry game that means thousands more will die. We warned over 30 years ago that diesel fumes were deadly, with millions at risk at work every day. If the authorities had listened then, today's diesel exhaust driven public health catastrophe could have been averted. In a *Hazards* exclusive, we reveal the criminal acts that left a working generation exposed and cost tens of thousands their lives.

Fuming: <http://www.hazards.org/chemicals/fuming.htm>
Diesel out prevention factsheet <http://www.hazards.org/chemicals/diediesel.htm> and **Die diesel die** poster <http://www.hazards.org/images/h144nedposterlarge.jpg>
Hazards 144, October-December 2018.

Diesel Exhaust in the Workplace TUC Guide or union activists

TUC CHECKLIST FOR UNION REPRESENTATIVES

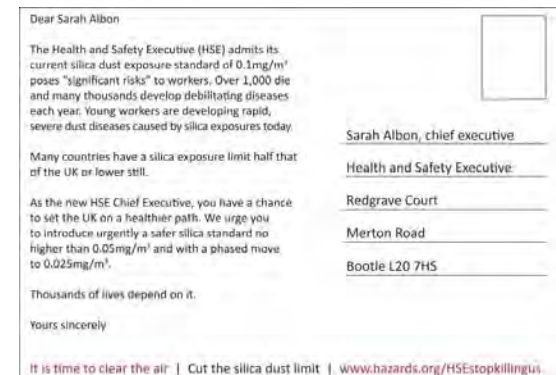
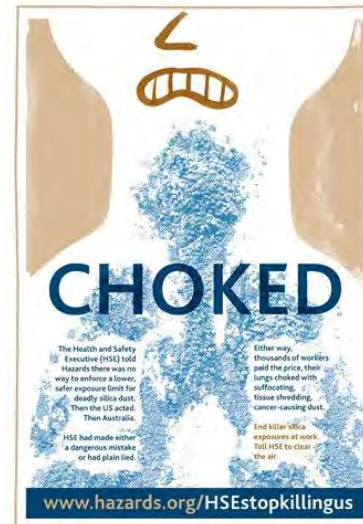
- Have you asked to see the employers risk assessments on diesel exhaust?
- Are the risk assessments adequate?
- Are the control measures proposed all in place and followed?
- Are there procedures in place for monitoring the effectiveness of the measures, and is there air monitoring in place?
- Do you receive reports from any monitoring?
- Is there a regular testing and maintenance regime for all engines and extraction equipment?
- Are staff given information and training on the risks of diesel fuel, including advice on not eating and smoking in areas where there may be exposure, washing hands and face before eating and changing clothes after work?
- Remember if you can see it or smell it – sort it.

Diesel exhaust in the workplace: A TUC guide for trade union activists, October 2018.
www.tuc.org.uk/dieselfumes

Educate, Agitate, Organise to prevent hazardous exposures @ work

- Use full SRSC Regs functions and hold employers to their legal duties
- Identify ALL substances in air @work- Occ.Hygienist to sample air for substances/dust particles by size
- Make sure to obtain all the up to date Material Safety Data Sheets and check them against EH 40 for WELs and Risk Phrases
- Find out about health hazards of all substances used, made/ arising at work – Find out what health problems workers complain of- use quarterly inspections, surveys, questionnaires, ASK THEM!
- Mapping – Hazards Mapping, Body Mapping Risk Mapping <http://www.hazards.org/diyresearch/>
- Employers under a legal duty to carry out risk assessment of hazards to workers/members of the public – get involved to help to make them better
- Link pollution inside work with pollution outside – get local monitoring data
- Campaign for new Clean Air Act; pollution control/prevention; just transition

The national Hazards Campaign urges Health and Safety Executive (HSE) to halve the workplace exposure limit for silica dust to save 4,000 lives a year. The **'Choked'** report from *Hazards* magazine presents evidence for cutting current legal limit of 0.1 mg/m³ for respirable crystalline silica to no more than 0.05 mg/m³ to reduce the incidence of lung scarring occupational disease silicosis, lung cancer, autoimmune diseases and other silica-related conditions. @hazardscampaign @hazardsmagazine @hazardsseditor



<http://www.hazardscampaign.org.uk/blog/hazards-campaign-calls-for-urgent-cut-to-killer-silica-dust-limit>

Resources

- Hazards Magazine www.hazards.org on all types of chemicals and dust: <http://www.hazards.org/chemicals/>
- Hazards Magazine on cancer: <http://www.hazards.org/cancer/>
- Continually updated bibliography on occupational cancer: <http://cancerhazards.org/#sthash.YRjzU4Kz.dpbssign> up for updates
- Put cancer out of work: <http://www.hazards.org/cancer/hsecriticism.htm>
- Silica CHOKED: www.hazardscampaign.org.uk/blog/hazards-campaign-calls-for-urgent-cut-to-killer-silica-dust-limit
- Hazards/ITUC: [Cancers and their work causes](http://www.hazards.org/cancer/work)
<http://www.hazards.org/cancer/work>
- ITUC/Hazaards Magazine: <http://cancerhazards.org/>
- Alliance for cancer prevention: <http://allianceforcancerprevention.org.uk/>
- From Pink to Prevention: <https://frompinktoprevention.org/>
- Toxics Reduction: <http://www.turi.org/> Andy Watterson powerpoint: <http://www.scottishhazards.org/resources/conference-reports/scottish-hazards-18th-annual-conference-november-2018/>

Resources

- Hazards Mapping: DIY Research <http://www.hazards.org/diyresearch/>
- Risk Mapping: <http://www.hazards.org/diyresearch/riskmapping.pdf>
- 'Body of Evidence' Hazards Factsheet 61 1997
- 'Mapping out Work Hazards' Hazards Factsheet 60 1997
- Body Mapping:
<http://www.hazards.org/diyresearch/bodymapping.pdf>;
- <http://www.hazards.org/diyresearch/observer.htm>;
<http://www.hazards.org/diyresearch/hesperianfoundation.htm>;
- Worked Over <http://www.hazards.org/workedover/index.htm>
- Surveying the damage;
<http://www.hazards.org/diyresearch/workersknowbest.htm>
- Get Mapping 2017 :
<http://www.hazards.org/images/h134centre1000.jpg>
- Hazards Campaign Safety Representatives and Safety Committees Regulations guide: <http://www.hazardscampaign.org.uk/wp-content/uploads/2018/08/safetyrepstoolkit.pdf>

• UNICEF video what PM 2.5s do to kids brains <https://twitter.com/UNICEF/status/1070272823762083840>

Resources

- Asbestos in Schools AiS: <http://www.asbestosexposureschools.co.uk/>
- International Ban Asbestos Secretariat IBAS: <http://www.ibasecretariat.org/>
- Join Union Asbestos Committee : JUAC <http://www.juac.org.uk/>
- Greener Jobs Alliance
http://www.greenerjobsalliance.co.uk/?page_id=31
- Module on Air pollution as TU issue:
http://www.greenerjobsalliance.co.uk/?page_id=714
- TUC Diesel: www.tuc.org.uk/dieselfumes
- Hazards Diesel Special:
<http://www.hazards.org/chemicals/fuming.htm>
- <http://www.hazards.org/chemicals/diediesel.htm>
<http://www.hazards.org/images/h144nedposterlarge.jpg>

Greater Manchester Hazards Centre

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- Facebook:
- Greater Manchester Hazards Centre
- We Didn't Vote to Die at Work
- Families Against Corporate Killers
- **Hazards Campaign:** <http://www.hazardscampaign.org.uk>
- **@hazardscampaign and @Jnewsham and @HildaPalmer**