

# FACING UP TO AIR QUALITY

PUBLIC HEALTH ANNUAL  
REPORT 2017



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# FOREWORD

Air quality is a re-emerging 21st century public health threat. It exemplifies a shift in the changing nature of risks to human health, which some authors refer to as a 'fifth wave' of public health challenges, which require new public health responses. These challenges include population change and growth, the risks associated with complex environments which appear to promote ill-health, inequality and poor wellbeing, and sustainable growth and energy use. Air quality is part of this picture and it is considered to be an advancing harm to health. The risk to health from air pollution is a reality that we are still addressing.

What we know about air pollution is that it affects certain populations disproportionately - the very young, older adults, adults with pre-existing lung and heart conditions and disadvantaged communities. Tameside is one of the 20% most deprived authorities in England and has more than double the population living in the most deprived quintiles compared to the rest of England, which is around 60% of residents.

Our 0-9 population is slightly larger than the England average and about 24% of children (10,600) live in low income families. Early deaths from cardiovascular disease are significantly worse than the England average, as are several health risk factors. This arguably makes action around air quality in Tameside more urgent and necessary.

Although air pollution has many dimensions, including the related matter of indoor air pollution, and many people link it to climate change, this report will focus on local road traffic-related air quality issues. The Royal College of Physicians talk about some of the reasons why. 'In 2012, road traffic in the UK was ten times higher than in 1949. Total distance walked each year decreased by 30% between 1995 and 2013'. It is also the aspect of air quality research where the available evidence is the strongest.

There is co-ordinated work taking place across Greater Manchester through the joint Air Quality Action Plan, that has broad coverage, and this will complement what we do locally in Tameside. It covers activities and interventions that no single authority could deal with effectively alone, and that will be strengthened by acting together.

The recommendations in this report are of a different order and are designed to be simple, manageable and realistic for residents and organisations to respond to locally.

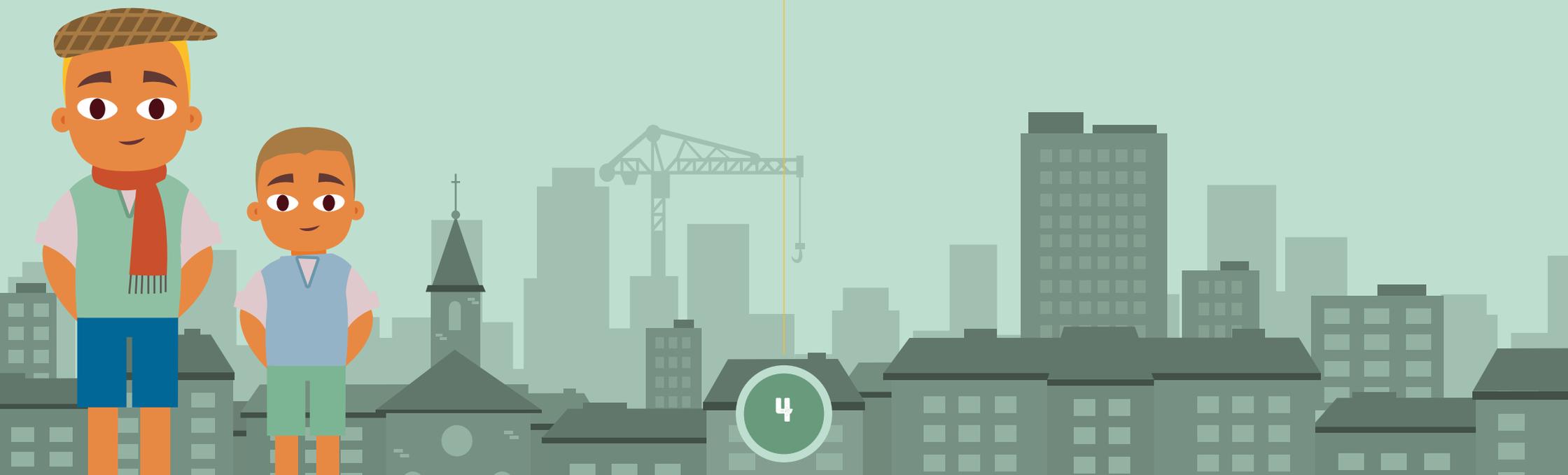
The main objective of this annual public health report is to discuss an issue which until relatively recently has been hugely underreported as a risk to human health.

**The two little boys on the front cover will have been blissfully unaware of the risks of inhaling the dust on the building site they were playing on, or the sulphur dioxide emissions from the chimney in the distance.**

This report is a call to action, to educate ourselves, our families and the next generation about the causes and risks of 21st century air pollution and how we can protect ourselves from exposure to it. I hope that this report and the accompanying animation is the beginning of that collective journey for Tameside residents, communities, businesses and public-sector services.



**Angela Hardman**  
Director of Population Health,  
Tameside Council





# PURPOSE OF THIS REPORT



# SECTION 1 - PURPOSE OF THIS REPORT

The fundamental purpose of this annual public health report is to raise awareness about and promote a wide recognition of the risks of traffic-related air pollution, by explaining what it means, its causes and effects on health, and considering what individuals and organisations in Tameside can do to limit their contribution and exposure to local air pollution. With it is a companion animation which is aimed at Tameside residents.

Imagine if our water supply was polluted and people's health was at risk. Having a clean water supply is so normal to us in the UK today that the public outcry would be enormous. Yet air pollution carries a much greater risk to human health, and there is no safe level of some air pollutants, but it is not currently recognised as a reality nor a significant problem.

There is a focus throughout the report on road-traffic related pollution. This is because Tameside features significant urban areas where levels of traffic, traffic congestion and air quality are nationally and locally recognised issues, much like the rest of the Greater Manchester conurbation and other towns and cities across the UK. Traffic-related poor air quality is also the focus of current UK policy and public health guidance and it is an area where the evidence is generally stronger.

However, the chief rationale for focusing on this aspect is that all Tameside residents, families, businesses, schools and communities can collectively play a role in local air pollution caused by traffic and road transport, unlike industrial, agricultural or chemical pollution for example.

The scope of this report will therefore not cover associated issues such as energy efficiency, low-carbon economies or climate change, but this is to focus our combined efforts in Tameside on the traffic-related causes of air pollution that we have more direct control over.

The secondary purpose of this annual public health report is to initiate a step-change in our collective response to the problem of poor air quality in our towns, recognising that air quality is part of what makes a healthy sustainable community, alongside good jobs, suitable housing, access to health and social care services and being an active part of society, having friends, having fun and sharing aspirations.

There has been ongoing work to address air quality for many years across Tameside and the recent developments at a national government level, and the collaboration across Greater Manchester through the detailed and comprehensive Air Quality Action Plan, has given impetus to this.

It is an unquestionable fact that air pollution is damaging to human health, and pollution rates will continue to increase, and in turn harm our health, unless we act. Allowing air pollution to grow unchecked is therefore not a sustainable course of action. This report is the proposed starting point for local, collective action and the recommendations demonstrate that there is a role for everyone that lives or works in Tameside.





# WHAT IS AIR QUALITY AND WHY IS IT A PUBLIC HEALTH ISSUE?



# SECTION 2 - WHAT IS AIR QUALITY, WHY IS IT A PUBLIC HEALTH ISSUE?

Air quality is a term used to describe and measure the extent to which the air we breathe is safe for human health. Other common ways of referring to the same idea are air pollution, particle pollution, particulate air pollution and emissions. Simply put, air quality is a public health issue because it causes serious long-term harm to health. The purpose of public health is to provide the population with services, knowledge, advice and insight to help protect our own health, and that of our family and our community from known risks.

## Poor air quality is one such risk.

Pollution is the introduction of something into a system or environment which would not occur naturally, and it can affect the air, water and soil. Most pollutants are created through human processes or materials such as transport, industry, agriculture, urban development, chemicals, homes, heating and fuel burning and realistically some of this pollution is a by-product of necessary activity. A recent report by the Lancet Commission on pollution and health (2017) has found that air pollution, compared to other forms of pollution such as soil, water or chemical pollution, has by far the biggest negative impact on health.

The quality of our air, or the extent to which it is high in polluting material, can vary according to factors such as geography, weather conditions, time of year and time of day, but the main contributor to air pollution in urban areas like Greater Manchester and the towns in Tameside is traffic.

In Greater Manchester well over 60% of the two most harmful emissions come from road transport – more precisely road transport accounts for 65% of nitrogen-based emissions, 79% of particulate matter emissions, along with 31% of carbon dioxide emissions. Figure 1 shows common types of air pollutants:

<b>Oxides of nitrogen (NOx)</b>	<ul style="list-style-type: none"><li>• A cover term for nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>)</li><li>• A mixture of naturally occurring and man-made gasses, often at a peak in rush hour traffic and strongly associated with diesel vehicles</li></ul>
<b>Particulate matter (PM)</b>	<ul style="list-style-type: none"><li>• A complex mix of substances which are mainly man-made</li><li>• Can be coarse or very fine material and therefore possible to breathe into the lungs and pass into the bloodstream</li></ul>
<b>Carbon dioxide (CO<sub>2</sub>)</b>	<ul style="list-style-type: none"><li>• A natural gas but considered a pollutant when man-made</li><li>• Widely associated with climate change and global warming</li></ul>
<b>Carbon monoxide (CO)</b>	<ul style="list-style-type: none"><li>• Naturally present in the atmosphere but very harmful in enclosed environments</li><li>• Man-made sources linked to combustion engines and</li></ul>
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	<ul style="list-style-type: none"><li>• A gas which is present in the air mainly due to burning fossil fuels and oil. Power stations are a key source in the UK</li><li>• SO<sub>2</sub> emissions have successfully been reduced over previous decades</li></ul>

Figure 1: shows common types of air pollutants



Where some of the biggest contributions to levels of pollution are local factors, it makes sense to try to tackle the causes locally and as individuals we can directly and positively manage the individual and collective effects of local air pollution by:



Supporting residents to do more active travel through the development of cycle ways and routes, improved pedestrian facilities, and the development of the public transport infrastructure, such as Metrolink, has been a long-term objective across Tameside and Greater Manchester.

More recently, this has developed into 'school run' active travel schemes such as walking buses, where a group of children walk to school together supervised by parents. Incorporating active travel into daily routines is good for our mental and physical health but cycling, walking and using public transport are the main alternatives to car use and can therefore also help to reduce our contribution to air pollution. Active travel is especially achievable for short journeys but Transport for Greater Manchester (TfGM) estimates that nearly a third of all journeys less than 1km are completed by car/van. It is also worth noting that travelling in a car does not protect us from traffic-related air pollution.



## AIR POLLUTION IN CONTEXT

Air pollution isn't a new problem in the UK and before the 1956 Clean Air Act, pollution was visible in the form of smoke and smog. The Great London smog of 1952 and the sharp and considerable increase in deaths that came about due to it sparked the then government to take steps to control smoke, soot and sulphur dioxide. This led to great improvements in urban air pollution and the later introduction of tall chimney stacks as a norm meant that industrial pollution was released higher into the atmosphere and dispersed better.

As a result, 'air quality has improved significantly in recent decades. Since 1970 sulphur dioxide emissions have decreased by 95%, particulate matter by 73%, and nitrogen oxides by 69%. Total UK emissions of nitrogen oxides fell by a further 19% between 2010 and 2015.' DEFRA Joint Air Quality Unit, UK plan for tackling roadside nitrogen dioxide concentrations, 2017. Perhaps because of these improvements in air quality and the fact that air pollution is now less tangible to the senses, by the 1990s air pollution was no longer considered a threat to health, but in 2016 the World Health Organisation (WHO) assessed it to be rising at an alarming rate. Now the sources of air pollution are different, but it remains highly toxic to health.

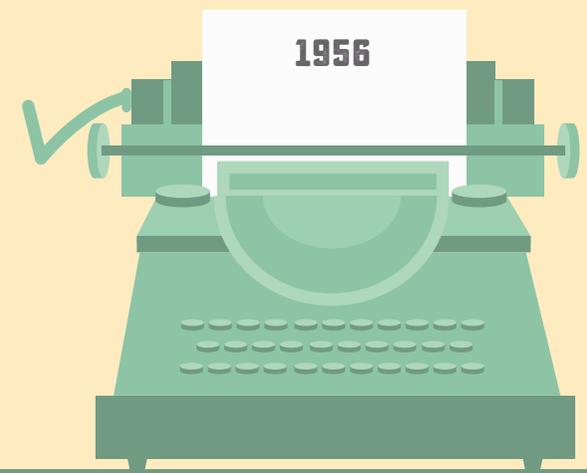
The challenge of 21st century air pollution has escalated to it now being recognised as the largest environmental risk to human health.

Although death and disease can rarely and singularly be attributed to air pollution, it is estimated to have contributed to around 9 million premature deaths in 2015 which represents 16% of all deaths worldwide (The Lancet Commission, 2017).

As part of its health protection remit, Public Health England (PHE) made some estimates of the effects of a form of air pollution called particulate matter or PM (see figure 1 above), which is one of the air pollutants causing most concern, partly because there are no safe levels of PM when it comes to protecting human health.

According to 2015 PHE data, an estimated 4.7 percent of deaths in England each year are attributable to long-term exposure to these small, polluting particles in the air. This is around 25,000 deaths per year. For Tameside, the equivalent figure is 4.2%, which is slightly higher than the north west average. Although air pollution alone is rarely the direct cause of death in individuals in practice, these figures are a way of expressing and quantifying the additional impact of air pollution on deaths across the UK population each year, compared to the impact of other causes of death.

## 1956 CLEAN AIR ACT



Another way of describing the impact is to say that air pollution results in an average loss of 6 months of life expectancy. This makes air pollution the biggest environmental risk linked to mortality. For context, other environmental risks to health, depending on where you live, could include food or water contamination, natural hazards like storms and flooding, occupational hazards, risks associated with the built/urban environment and climate change.

However, when we compare annual deaths associated with PM with numbers of deaths caused by some very well-known risks to health, then the impact of PM on population health takes on a different meaning.

Figure 3 compares annual deaths associated with PM with other direct behavioural risk factors.

Risk Factor	Annual attributable mortality in England	Death for which the risk factor is the main cause of death
Long-term exposure to particulate air pollution	25,000	small number
Alcohol	22,481	6,000
Smoking	79,700	43,400

Figure 3: Source: PHE website Understanding the impact of particulate air pollution (2015)

The comparisons in figure 3 highlight the hidden and largely unarticulated impact of particulate air pollution on population health. Whilst regular, excessive alcohol consumption is now a publicly recognised health risk, accompanied by published guidelines on how to manage our individual risk, the additional contribution of alcohol to the annual number of deaths in England is in fact lower than particulate air pollution.

The health risks of smoking are perhaps the most widely and long understood by the public. There are clear parallels between the type of harm associated with smoking and the harm caused by air pollution.

Both affect the lungs and circulatory system, although smoking would be regarded as having a more direct and amplified effect, making a stronger additional contribution to annual deaths and playing a greater role overall in deaths. Yet the effects of air pollution are not described or understood in these terms, despite striking similarities to the physiologically damaging effects of smoking.

However, it is reasonable to assume that as air pollution increases, and if the population's exposure to it is not controlled, its contribution to annual mortality will increase. That is why greater local awareness of the problem is needed now, which starts with the production of this report for the borough of Tameside.

**AIR POLLUTION RESULTS IN AN AVERAGE LOSS OF 6 MONTHS OF LIFE EXPECTANCY.**

## UK ACTION ON AIR QUALITY

The impact of air pollution on human health is recognised by the UK Government in several ways across a range of public policy, government departments and independent or professional organisations:

- Public Health England (PHE) now regards air pollution as one of its top 3 priorities and is working towards costing the impact on the NHS, developing the evidence base beyond current guidance, and supporting local analysis of the impact of air quality.
- The Royal College of Physicians and the Royal College of Paediatrics and Child Health produced and published its own broad and comprehensive report in February 2016 entitled Every Breath We Take, which looks at the lifelong or long-term effects of air pollution on human health. It makes the links to specific illnesses, the different physiological effects for the young and old, and how the health impact of air pollution can be more pronounced for some communities.
- A briefing was published for Directors of Public Health in March 2017, updating essential facts and evidence around the problem of air quality and suggesting methods to address it. It particularly emphasises the importance of local leadership.
- In June 2017, the National Institute for Health and Care Excellence (NICE) and PHE published a joint guideline on 'Air pollution: outdoor air quality and health'. Like this report, it focuses on air pollution linked to road traffic and its effects on ill-health.

- In July 2017, DEFRA and the Department for Transport published its statutory Air Quality Plan for tackling roadside nitrogen dioxide (NO<sub>2</sub>) emissions. This identifies 37 mainly urban, but also geographically larger rural 'clean air zones', where NO<sub>2</sub> has been identified as a problem. The plan also includes a requirement on specific local authorities to reduce NO<sub>2</sub> levels, using statutory feasibility studies to identify how to meet legal limits for nitrogen dioxide as quickly as possible, and sets deadlines to achieve it.

Tameside is one of these local authorities and has a declared Air Quality Management Area or AQMA, largely coinciding with the main roads through the borough.

In addition to national developments, Greater Manchester Combined Authority has developed an Air Quality Action Plan 2016-2021.

### Greater Manchester Combined Authority Air Quality Action Plan 2016-21

This is a detailed document and action plan setting out activities ranging from managing new development, freight and goods vehicles to supporting active travel and access to information.

**37 MAINLY URBAN, BUT ALSO GEOGRAPHICALLY LARGER RURAL 'CLEAN AIR ZONES', WHERE NO<sub>2</sub> HAS BEEN IDENTIFIED AS A PROBLEM.**

**DEFRA AIR QUALITY PLAN, JULY 2017**



# HOW THE AIR WE BREATHE AFFECTS OUR HEALTH

## SECTION 3 - HOW THE AIR WE BREATHE AFFECTS OUR HEALTH

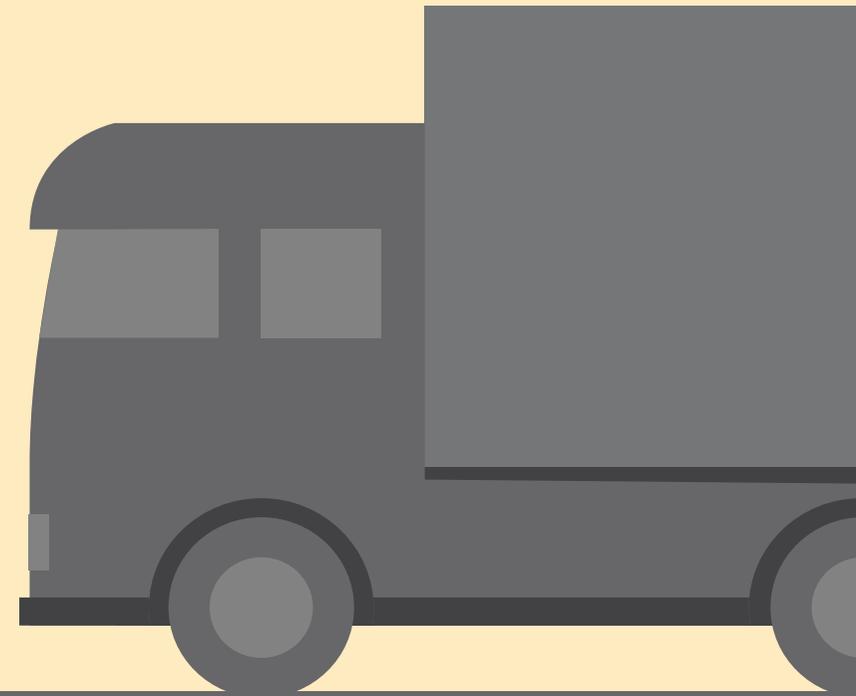
In the past 2 years there has been a swell of publications from world health leaders such as the World Health Organisation (WHO), academic and research institutions including the Lancet Commission on pollution and health, and UK professional bodies and Government.

Whilst many of these reports recognise that a full understanding of the effects of air pollution on human health is still emerging, there is enough evidence from science and healthcare to have no doubt that air pollution harms health.

These developments have allowed more confident estimates of the effects of air pollution on population health, in particular for two of the more common pollutants – particulate matter (PM) and nitrogen dioxide (NO<sub>2</sub>) – which both arise from road transport emissions.

The UK estimate of the contribution of air pollution from PM to all deaths in each year is likely to be around 5%. The effects of NO<sub>2</sub> have not yet been quantified but are soon expected to be by the Department of Health's (DH) Committee on the Medical Effects of Air Pollutants (COMEAP). The research to date however points categorically towards long-term exposure (e.g. over several years) to the elevated levels of PM and NO<sub>2</sub> that are typically present in most urban environments having an adverse effect on health and contribute to a reduced life expectancy.

To understand in greater detail how air quality affects individual health and the burden of disease across the entire population, we need to distinguish between short-term and long-term exposure.





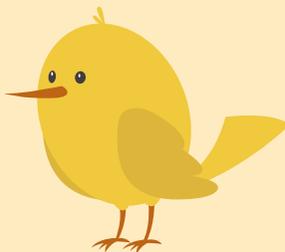
## HEALTH EFFECTS OF SHORT-TERM EXPOSURE

Both PM and NO<sub>2</sub> at high concentrations over a few hours or weeks behave like an irritant. In healthy adults, this may result in coughing, sneezing and watery eyes for example, but for people who have existing lung or heart conditions such as chronic bronchitis, asthma and heart disease it can trigger more serious health consequences such as an asthma attack, shortness of breath, production of mucus which inhibits breathing, and heart attack or stroke.

Some studies have also shown a link between NO<sub>2</sub> and reduced lung development and respiratory (chest) infections in young children.

**Source: Air Quality: A Briefing for Directors of Public Health (2017)**

## COUGHING, SNEEZING AND WATERY EYES



## HEALTH EFFECTS OF LONG-TERM EXPOSURE

While the short-term effects of air pollution are most troubling for people with existing lung and heart disease, not surprisingly the long-term effects of air pollution contribute to the development of the same types of diseases, as physiologically the lungs and circulatory system are the bodily organs that primarily process air pollutants. Figure 4 shows this more clearly and points towards other physiological effects.

Long-term exposure to air pollution levels found in most urban areas across the UK increases the risk of lung disease, heart disease and having a stroke. There is also some early, emerging evidence that it is linked with new-onset of type 2 diabetes in adults. Source: Every Breath We Take (2016)

In a 2016 report WHO states that there is enough epidemiological evidence to assert that air pollution increases the risk of:

- acute lower respiratory problems,
- chronic obstructive pulmonary disease,
- stroke,
- ischaemic heart disease, and
- lung cancer.

In 2013, the WHO International Agency for Research on Cancer has also classified air pollution generally, and PM specifically, as carcinogenic or cancer-causing.

## Where air pollutants go in our bodies and what they do

A few hours of PM<sub>2.5</sub> over 35 µg/m<sup>3</sup> or NO<sub>2</sub> over 200 µg/m<sup>3</sup> irritates the eyes, nose and throat.

PM can cause strokes. Ultrafine PM has been found in samples of brain and central nervous system tissue.

Poor air quality affects everyone. It can have long term impacts on all and immediate effects on vulnerable people, with a disproportionate impact on the young and old, the sick and the poor.

Heart and blood vessel diseases like strokes and hardening of the arteries are one of the main effects of air pollution. These can be caused by a few years exposure to even low levels of PM<sub>2.5</sub>.

Exposure for a few hours to high levels of PM<sub>2.5</sub> can bring on existing illness or strokes and heart attacks in ill people.

Ultrafine PM can get into the blood then throughout the body. Ultrafine particles have been found in body organs.

PM has been found in the reproductive organs and in unborn children.

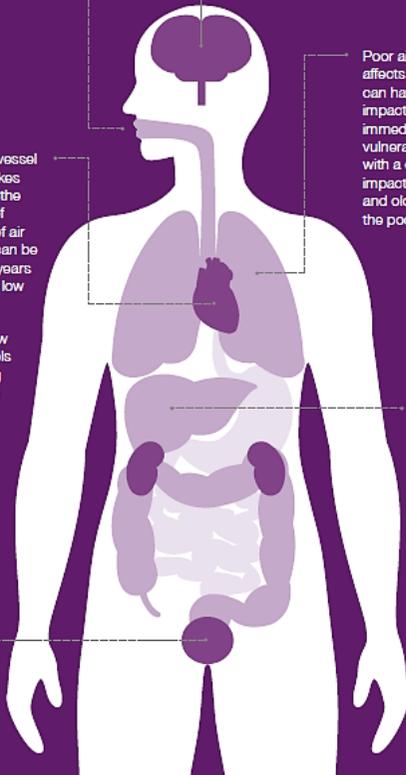


Figure 4 Source: DEFRA, PHE, LGA publication 'Air Quality: A Briefing for Directors of Public Health' March 2017

## DOES AIR POLLUTION AFFECT EVERYONE IN THE SAME WAY?

Like most risk factors to individual health, air pollution will have different effects across the course of our lives, depending on a wide range of issues including what we do for a living, what age we are, how much money we earn, where we live and our genes.

There is also a recognition that different risk factors to health e.g. poor diet, alcohol consumption, use of tobacco and lack of physical activity also interact with each other to increase or decrease an individual's accumulated risk of disease. Air pollution is no exception to that, meaning that two different people both exposed to usual levels of urban air pollution could have very different health outcomes.

But there is clear agreement across the recent national and international reports on air pollution that some population groups, life circumstances or characteristics will make some individuals more vulnerable in predictable ways.

The most important of these are:

- age
- levels of socio-economic disadvantage or inequality



The Lancet Commission on pollution and health states that 'pollution disproportionately kills the poor and the vulnerable.' Figure 5 provides more explanation for these differences.

# WHAT DOES THIS MEAN FOR OUR HEALTH AND CARE SYSTEM?

There are several implications for health and care systems, including public health strategy, service planning and healthcare delivery.

The first is for the health and care economy in Tameside to better understand the impact of air pollution on its community. This annual public health report is the beginning of the process, but it needs to develop into a more detailed appreciation of the air pollution exposure risk and how that differs across Tameside geographically and socially.

The explicit link between air pollution and lung and heart disease is an early marker of the potential direction of travel of the disease burden if air pollution levels and exposure to it are not managed. Current national trends in premature death put cancer as the leading cause, thought in large part to be the cumulative effect of programmes to reduce the risks to health of smoking, resulting in a positive effect on early cardiovascular mortality. This adds power to the argument to act now on air quality to protect our health futures and that of younger generations, as health outcomes can be slow to change and population exposure to air pollution is very broad because it's carried in the air we all breathe.

Although healthcare impacts of air pollution are only estimated, they include assumed increases in the number of days over which people will experience symptoms, the number of days of restricted activity due to ill-health, hospital admissions for lung and heart problems, and cases of chronic bronchitis in adults and children.

Most of these healthcare impacts are likely to be seen and managed in the community, by GPs, District Nurses, specialist community nursing teams and the emerging multi-disciplinary integrated care teams, and through self-care by individuals themselves.



## Babies and young children

Babies in utero, toddlers and young children are thought to be at increased risk of harm from air pollution, mainly because their bodies and brains are still developing, and these normal developmental stages can include windows of vulnerability where exposure to pollution, even at low levels, can affect/slow development and be the catalyst for disease or disability, in childhood or later life.



## Older adults

For older adults, exposure to air pollution seems to be associated with an increased risk of death, although these are early research findings. This is certainly partly because more older adults will already have well-established lung, heart and metabolic conditions which are sensitive to air-pollution. However, a systematic review which collated the research from several studies, has found that older adults are twice as likely as younger adults to die from or be hospitalised by exposure to PM.



## Disadvantaged communities

The relationship between poverty and air pollution is complex. Economic and social disadvantage increases vulnerability to air pollution because of the simultaneous wider presence of, or susceptibility to, other risk factors associated with deprivation i.e. exposure to multiple risk factors increase overall risk. Factors which may play a more direct role, are levels of sustained stress due to poverty and the differences in geographical locations and environmental conditions of more disadvantaged communities, such as urban settings with less green space and living on more highly trafficked roads or neighbourhoods.

Figure 5: Groups that are more vulnerable air pollution



# WHAT WE CAN DO IN TAMESIDE TO MAKE A DIFFERENCE?

# SECTION 4 - WHAT WE CAN DO IN TAMESIDE TO MAKE A DIFFERENCE?

Improving air quality in Tameside doesn't require individual herculean effort, but it does require widespread buy-in and a shared commitment to make small changes. Those changes become significant if enough of us are committed to doing them frequently and together they will lead to incremental improvements in air quality.

The principles sitting behind all the recommendations in this report are simple and achievable and are the basis of a call to action for all of us.

They are:

**EDUCATE YOURSELF ABOUT AIR POLLUTION AND SHARE IT WITH OTHERS**

**APPLY WHAT YOU LEARN TO YOUR LIFE OR WORK**

**FULLY COMMIT TO MANAGEABLE CHANGES**

**CHOOSE AIR-QUALITY FRIENDLY ALTERNATIVES WHENEVER POSSIBLE**

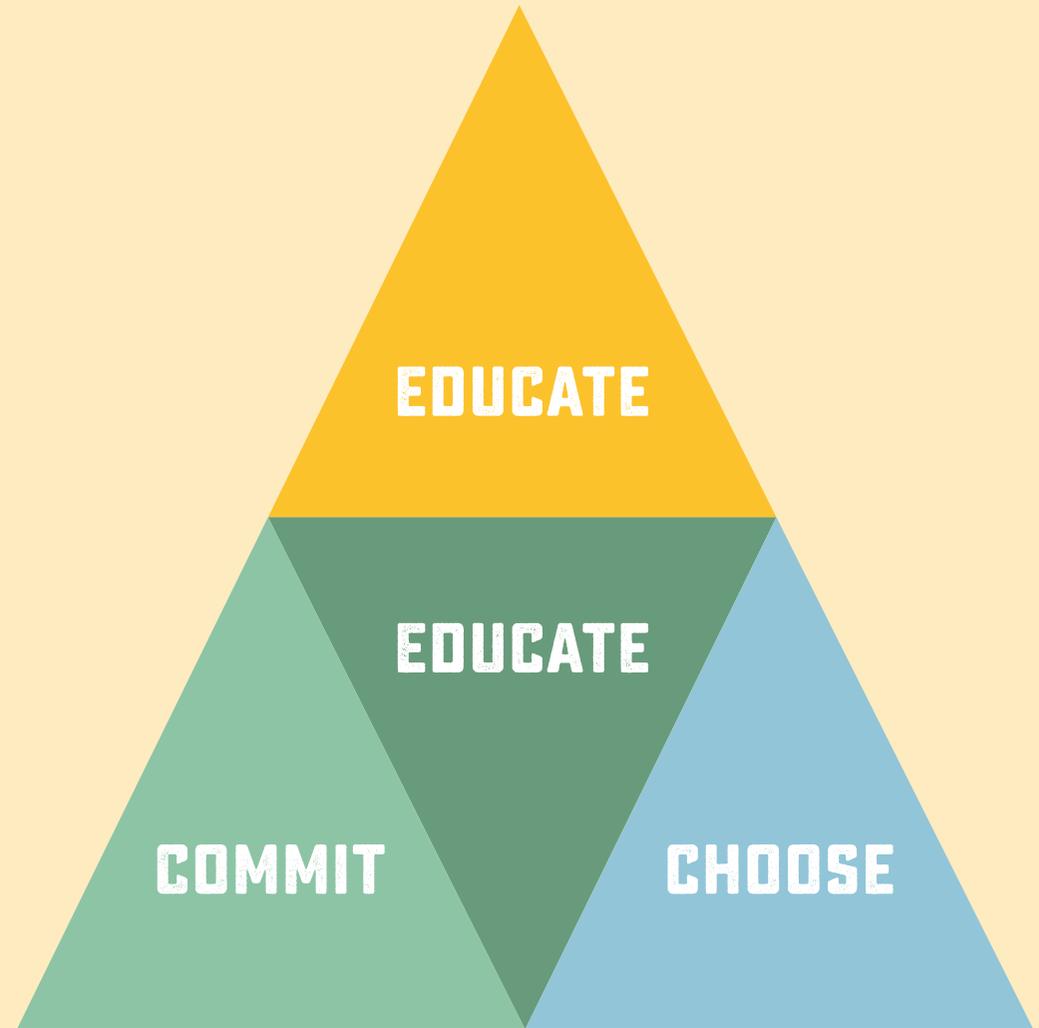


Figure 6: The principles behind reducing air pollution and the exposure to it



# A CALL TO ACTION



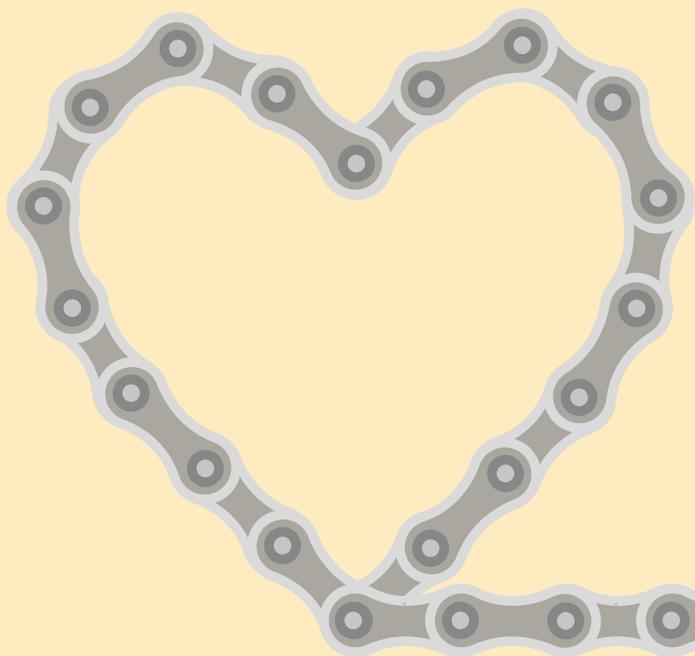
# SECTION 5 - A CALL TO ACTION

## FOR INDIVIDUALS AND FAMILIES

**Be informed** - take time to think about your own daily exposure to air pollution, and that of your family, and what you could do to reduce your contribution and exposure risks.

**Commit to** walking or cycling all journeys that take 15 (walking or cycling) minutes or less.

**Walk to school** whenever possible and always switch off idling vehicle engines outside nurseries, schools and colleges.



## FOR NEIGHBOURHOODS, COMMUNITIES, SCHOOLS AND THE VOLUNTARY AND SOCIAL ENTERPRISE SECTOR

**Start a conversation** about the risk of air pollution in your community, especially for the most vulnerable groups including pregnant women; babies, toddlers and young children; older adults and people who may already be struggling with health problems or low incomes. Use social media, community cafes, community groups or wherever your community comes together.

**Ensure that cycle training is provided** at all primary schools in Tameside.

**Building on the example** of Gorse Hall Primary School [WATCH HERE](#)

**Support teaching and discussion** of air quality in local schools at KS2, using existing resources such as the Friends of the Earth 'Clean Air Schools Pack' or clean air day resources to help.

**Your Clean Air Schools Pack** [Clean Air Day resources](#)

Voluntary sector and social enterprises supporting or providing services for young children and adults at a higher risk from air pollution are **encouraged to incorporate awareness** of the risks into their practices.

**Participate in** Clean Air Day on 21 June 2018.

## FOR BUSINESSES AND EMPLOYERS

If you employ drivers or are a professional driver e.g. a taxi driver, truck driver, courier, consider **actively encouraging** or **adopting a steady driving style** that continuously stays within the 30mph speed limit on urban roads.



This style of driving reduces acceleration and braking which reduces emissions; it is also more fuel efficient; and safer for the driver and other road users.

**Consider eco driving training.**

### Energy Saving Trust Eco Driving Training

**Promote and support** the use of car sharing and car clubs to facilitate travel to and from work and alternative working practices that minimise work-related travel such as video conferencing and working from home. This may also lead to higher productivity and reinforce teamwork within the work place.

Choose to use **low-emission approaches** to transport goods and services e.g. bike couriers, companies that use green vehicles, and clean diesel transport.

**Commit to introducing low-emission vehicles** only for business fleet when existing vehicles reach the end of their usable life.

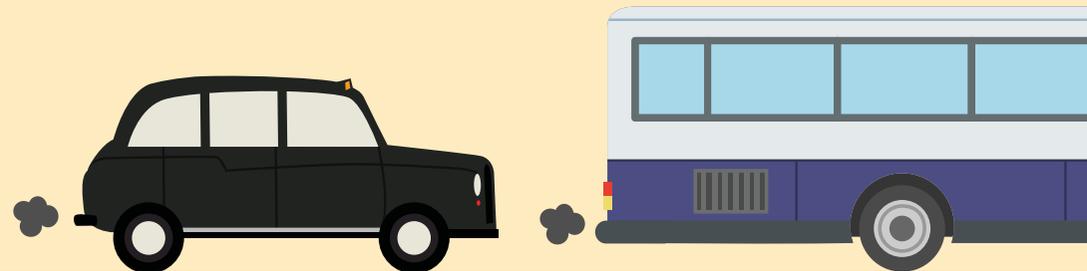
## FOR THE PUBLIC SECTOR

**Actively use the opportunity** of the Public Services (Social Value) Act 2012 in public sector commissioning to find ways to promote environmental well-being and the reduction of air pollution in all appropriate contracts and procurement arrangements.

Consider how air pollution can be minimised and exposure risks of the most vulnerable groups can be managed in the **design of public policy** e.g. healthy ageing, early years and health inequalities strategies.

**Continue to ensure** that planning applications for services and facilities used predominantly by vulnerable groups e.g. nurseries, schools, care homes and healthcare facilities, consider the current and any known future air pollution exposure risks at the site.

**Maximise street design and civic space** to create healthier streets and reduce the exposure of walkers and cyclists to air pollution, learning from practices elsewhere. [Guide to the Healthy Streets](#)

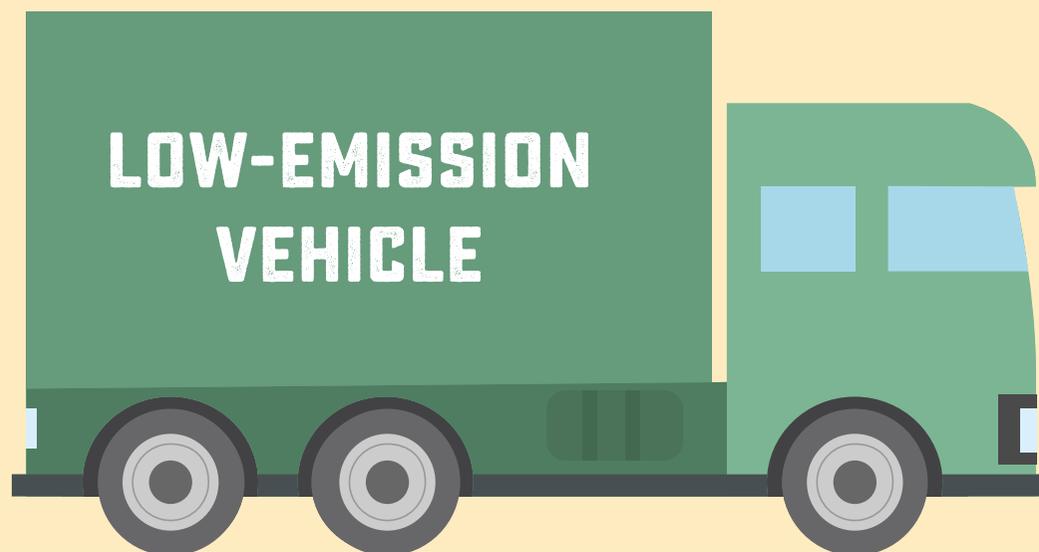


**Consider restriction of idling engines** at taxi ranks when vehicles are not in use and promote low-emission vehicles as taxis. Work with local bus and coach companies to limit idling engines at depots, stations and stops.

**Incentivise green travel policies** within the workplace e.g. a green mile rewards scheme which calculates work miles travelled by public transport, on foot, or by bike with bi-monthly rewards for the furthest green traveller, such as healthy lunch vouchers, a gym pass or bonus flexi time.

Commit to introducing **low-emission vehicles** only for business fleet when existing vehicles reach the end of their usable life.

Healthcare professionals should understand the risks of air pollution and **use this knowledge to help** vulnerable patients protect themselves from the worst effects of air pollution. This could require targeted employee training.

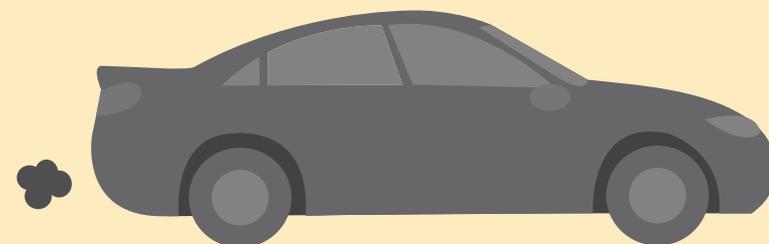


## TO RAISE AWARENESS

Hold a roundtable for senior directors of the largest local employers, hosted by the Director of Population Health and Assistant Director of Environmental Services, to discuss air pollution, its impact and **seek commitment to local solutions**.

**Produce a basic air quality analysis** for Tameside lead by Public Health in collaboration with Environmental Health. This should compare rates of mortality attributable to air pollution with other mortality rates locally; an analysis of higher risk locations linked to an understanding of the more vulnerable groups and communities in the borough; and consideration of how to incorporate air quality alongside other strategic health and care issues covered in the Joint Strategic Needs Assessment.

**Develop digital approaches** for communicating and promoting issues relating to air quality across Tameside. This could include social media, air pollution alerts or apps e.g. when levels have exceeded recommended limits, and use of existing websites and communication systems to inform people at higher risk of the health effects of air pollution.



## TO PROMOTE ALTERNATIVES

Schools in the most high-risk socio-economic and geographic locations for air pollution will be **invited to collaborate** with the Council to identify and promote off road / minor road alternative walking and cycling routes to and from school.

Offer support to employees to **fund alternative ways of commuting** to work such as interest-free loans to purchase transport season tickets, cycle to work schemes, and include green work travel planning in new employee inductions.

<https://ffgm.com/travel-choices>

## TO UNDERSTAND HOW CHANGE HAPPENS AND SHARE GOOD PRACTICE

Pilot and evaluate the development of a **'green travel zone'** across a small geographical area within the current Tameside AQMA, which would be regarded as a higher risk site e.g. the neighbourhood around a school, or a more disadvantaged community. The purpose will be to raise awareness, understand barriers, develop realistic alternatives with the community, and achieve modal shift over time with the intention of learning and replicating.

**Develop an action plan** that will ensure the recommendations in this report are implemented, which will be managed and overseen by the new air quality steering group.





# HOW TO FIND OUT MORE ABOUT AIR QUALITY

# SECTION 6 - HOW TO FIND OUT MORE ABOUT AIR QUALITY

## BELOW ARE LINKS TO SOME OF THE MOST IMPORTANT DOCUMENTS THAT WERE USED TO INFORM THIS ANNUAL PUBLIC HEALTH REPORT:

Air Quality: A briefing for Directors of Public Health, published jointly by DEFRA, Public Health England and the Local Government Association, March 2017

[www.local.gov.uk/air-quality-briefing-directors-public-health](http://www.local.gov.uk/air-quality-briefing-directors-public-health)

Air Quality Plan for tackling roadside nitrogen dioxide (NO<sub>2</sub>) emissions, published by DEFRA and the Department for Transport, July 2017

[www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017](http://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017)

Ambient air pollution: A global assessment of exposure and burden of disease, published by the World Health Organisation, 2016

[who.int/phe/publications/air-pollution-global-assessment/en/](http://who.int/phe/publications/air-pollution-global-assessment/en/)

Every Breath We Take: The lifelong impact of air pollution, published by The Royal College of Physicians and the Royal College of Paediatrics and Child Health, February 2016

[www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution](http://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution)

The Lancet Commission on pollution and health, published in October 2017

[www.thelancet.com/commissions/pollution-and-health](http://www.thelancet.com/commissions/pollution-and-health)

Making the case for a 'fifth wave' in public health, Hanlon P, Carlisle S, Hannah M, Reilly D, Lyon A. published in Public Health. 2011 Jan;125(1):30-6.

[www.ncbi.nlm.nih.gov/pubmed/21256366](http://www.ncbi.nlm.nih.gov/pubmed/21256366)

NICE guideline NG70 - Air pollution: outdoor air quality and health, published June 2017

[www.nice.org.uk/guidance/ng70/chapter/Recommendations#development-management](http://www.nice.org.uk/guidance/ng70/chapter/Recommendations#development-management)

## THESE LINKS MAY BE OF MORE GENERAL INTEREST:

Clean Air Day resources and toolkits

[www.cleanairday.org.uk/](http://www.cleanairday.org.uk/)

DEFRA

[uk-air.defra.gov.uk/](http://uk-air.defra.gov.uk/)

Friends of the Earth

[friendsoftheearth.uk/clean-air](http://friendsoftheearth.uk/clean-air)

Healthy Air

[www.healthyair.org.uk/](http://www.healthyair.org.uk/)

World Health Organisation

[www.who.int/topics/air\\_pollution/en/](http://www.who.int/topics/air_pollution/en/)



# AIR QUALITY GLOSSARY

# SECTION 7 - AIR QUALITY GLOSSARY

## AIR POLLUTION

A general term which groups together all forms of airborne gasses and particles which would not usually be naturally present. It implies a build-up or excess of this material.

## AIR QUALITY

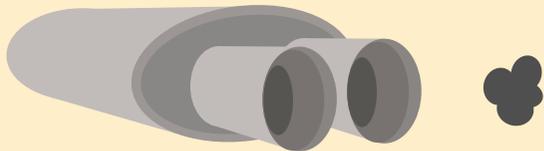
This is a term used when trying to quantify the level of pollutants present in the air, to judge how high or low they have become. It is a neutral description.

## CANYON EFFECT

Street canyons describe where a road is flanked on either side by buildings or less commonly very dense vegetation. This can cause a build-up of the emissions on the road, trapping and recirculating pollutants, potentially resulting in very high levels of air pollution.

## EMISSIONS

A cover term for a variety of pollutants that are released from industrial, chemical and combustion processes and are often associated with vehicle exhaust.



## GREEN/CLEAN/LOW-EMISSION VEHICLES

These are any road vehicles which use cleaner forms of energy to reduce vehicle emissions e.g. electric vehicles (EV), hybrid cars (a petrol and electric engine), LPG and natural gas cars, and ultra-low emissions vehicles (ULEVs) which achieve reduced levels of CO2 through a range of different technologies.

## GREEN WALLS / SCREENS / ROOFS

Walls and roofs which have been 'greened' by allowing or intentionally supporting green vegetation to take hold or grow. Although green walls and roofs have many other benefits, they can also help to manage air quality by blocking or absorbing carbon dioxide, some air pollutants and dust.

## PARTICLE POLLUTION

A cover term for pollutants that contains solid, but often microscopic material.

