

AFTER THE LOCKDOWN, SHOULD MORE BE DONE TO TACKLE AIR POLLUTION?

THE DILEMMA



Air pollution in London before lockdown

Like most countries around the world, the UK entered lockdown in March due to the COVID-19 pandemic. Almost immediately, there were improvements to the air quality. The reduction in road traffic led directly to less pollution.

In fact, the lockdown led to cleaner air in various parts of the world, especially in big cities such as London, New York and Milan. This has been a great benefit for our health, as air pollution is very harmful.

One study found that in the first month of lockdown, there were 11,000 fewer deaths from pollution across Europe. It also found that there were 1.3 million fewer days off work, 6,000 fewer kids developing asthma, and 1,900 fewer trips to Accident and Emergency. In London, nitrogen dioxide (NO₂) levels in some of the busiest roads dropped to almost half their level before lockdown.



Air pollution in Beijing, China, in March

But as lockdown is eased in most countries, air pollution is increasing rapidly. In China, levels of some air pollutants have now risen above last year's levels.



Some leaders have already said they want to keep pollution down after the lockdown. The Italian city of Milan is in the process of turning 35 kilometres of streets into cycle and pedestrian routes.

Worldwide, outdoor air pollution kills 4.2 million people each year, by causing serious illnesses and conditions including lung problems (such as asthma and cancer), heart disease, stroke, pregnancy complications and mental illness.

An empty street in central London during lockdown



In the UK alone, air pollution kills more than 40,000 people a year.

The lockdown has been very difficult for many people. But one of the few positives is that it has driven down air pollution. Should we – individual citizens, businesses, schools and the Government – do more to keep pollution levels down after lockdown?

FACTS & FIGURES



Almost **50%** of all deaths by air pollution from transport are caused by diesel emissions. Diesel fuel is used in some cars, vans and trucks.

97% of all modern diesel cars release more toxic nitrogen oxide pollution than the official limit.

There are **six** main types of air pollution, including particulate matter, nitrogen dioxide and sulphur dioxide.

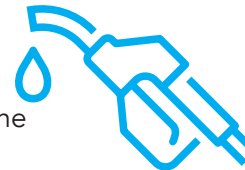
There are more than **12 million** diesel cars and **4.5 million** diesel vans and lorries in the UK.

There was a **30%** drop in the number of diesel cars registered in 2018 compared with 2017.

There are now twice as many electric car charging points in the UK as petrol filling stations. There are **17,947** public electric vehicle charging devices compared with **8,046** petrol stations.

Visits to hospital for asthma have fallen by **half** during lockdown in the UK.

VEHICLE FUEL



Most vehicles in the UK run on one of these three energy sources:



PETROL – The most common fuel, petrol vehicles use a spark to ignite the engine. The fuel is injected into something called the combustion chamber and combined with air to provide energy. In 2018, there was a rise in the number of petrol cars registered in the UK, up by 9% compared with 2017.



DIESEL – In diesel engines the fuel is ignited not by a spark, as in petrol engines, but by the heat of air compressed in a cylinder, with the fuel injected in a spray into the hot compressed air. Diesel vehicles are the worst for air pollution.



ELECTRICITY – Electric cars do not give off any air pollution, because they use rechargeable batteries that are powered by plugging the vehicle into a charge point. The energy comes from the electricity grid. Their engines do not burn any fuel. Electric cars are growing in popularity.

THE TROUBLE WITH DIESEL



All cars and vans contribute to air pollution, but diesel-powered vehicles are far worse than petrol-powered cars. Although diesel cars use less fuel than petrol cars, diesel fumes contain more than ten times the amount of soot particles as petrol exhaust fumes, and the mixture includes lots of substances that can cause cancer. In London, diesel vehicles are to blame for a huge 40% of the capital's air pollution.

WHAT IS AIR POLLUTION?



It is the release into our atmosphere of various gases, solids or liquid particles at a rate that is too high for our environment to dilute or absorb them. As a result, the amount of these substances in our air often becomes very high and causes problems ranging from smog (an intense fog made worse by pollution) to health complications for people and animals.

Several scientific studies have shown the dangerous

impact on human health caused by pollution spewed out by vehicles. Most air pollution is caused by human activity, in particular transport. Of the six main pollutants, particulate matter is the worst for our health because it is so tiny it can enter our bloodstream and spread around the body. This type of pollutant is produced by vehicle engines and the burning of coal and oil, among other things.

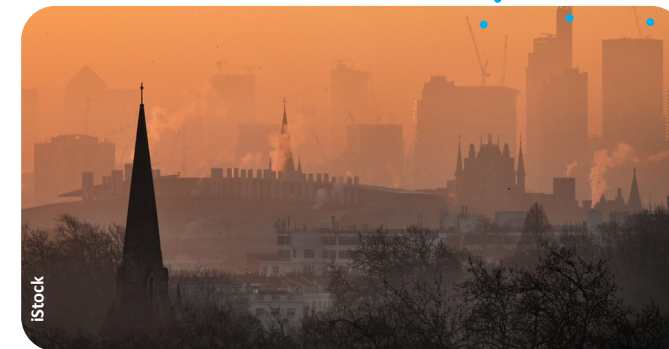
POLLUTANTS



According to the UK Government, these are the health effects the most common pollutants in our air can cause:

Pollutant	Health effects at high levels of exposure
Nitrogen dioxide, sulphur dioxide, ozone	These gases irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases.
Particles	Fine particles can be carried deep into the lungs where they can cause inflammation (swelling) and a worsening of heart and lung diseases, as well as several other conditions.
Carbon monoxide	This gas prevents the uptake of oxygen by the blood. This can lead to a big reduction in the supply of oxygen to the heart, particularly in people suffering from heart disease.

TYPES OF AIR POLLUTION



There are many pollutants – both indoors and outdoors – that contribute to air pollution and can harm our health. The most common and harmful are:

PARTICULATE MATTER – This is a mix of solids and liquids. Some particles, including dust, soot, dirt and smoke are large or dark enough for us to see. But the most dangerous particles are tiny, with a diameter that's smaller than 10 microns (10µm) – that's 10 millionths of a metre!

These particles come from many sources, some man-made and others natural. The man-made ones include emissions from diesel and petrol engines, friction from brakes and tyres, and dust from road surfaces. Diesel engines produce much more than petrol engines.

Larger particulate matter can get trapped in your nose, but the tiny particles can go deep into your lungs. The smallest particles, which can carry toxic chemicals, can even enter the bloodstream.

NITROGEN DIOXIDE (NO₂) – This is a gas that comes from vehicles, power stations and heating. Diesel vehicles are big contributors to NO₂ levels, which are highest when traffic is busiest. High levels of NO₂ can irritate the lining of your airways, making asthma worse and causing symptoms such as coughing and breathing difficulties.

OZONE (O₃) – This pollutant is actually higher in the countryside than in towns and cities. Ozone is a gas and, in the upper level of the Earth's atmosphere, it helps us by absorbing harmful ultraviolet radiation.

Unfortunately, down here, ozone is made by a chemical reaction between the sun's rays and gases and oxides of nitrogen emitted by cars, power plants, chemical plants and other sources.

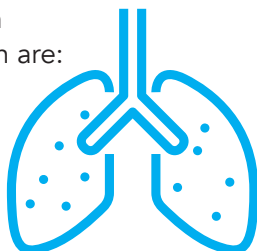
Ozone can irritate the airways of healthy people as well as people with lung conditions. High levels can cause you discomfort when you breathe, reduce your lung capacity (the amount of air your lungs can hold) and trigger asthma symptoms.

Source: British Lung Foundation

HEALTH RISK

Some of the most serious health problems caused by air pollution are:

- Heart disease
- Asthma
- Depression



- Miscarriage (a mother losing her baby before birth)
- Stunting lung growth in children
- Depression in young adults
- A reduction in intelligence



YES, WE KHAN

London's Mayor, Sadiq Khan has announced plans to close large parts of the capital city to cars and vans to allow cyclists and pedestrians to use them safely instead. He wants to introduce this very soon, as the lockdown is eased. Three main routes between important parts of London will only be available for buses, pedestrians and cyclists.



Mayor Khan says it will bring several benefits: it will help reduce air pollution in the capital; it will help people socially distance; and it will help encourage people to take exercise. But some people have criticised the plan, saying it could badly affect businesses that need to use the roads to transport goods.

OTHER CITIES AFTER LOCKDOWN

MILAN, ITALY – Some 35 kilometres of streets are being adjusted this summer so that they can only be used by cyclists and pedestrians. Cycle lanes will be introduced and pavements widened, and some streets will give priority to bikes and walkers. Marco Granelli, a deputy mayor of Milan, said: "If everybody drives a car, there is no space for people, there is no space to move, there is no space for commercial activities outside the shops. We think we have to reimagine Milan in the new situation."

BOGOTA, COLOMBIA – Bicycle use has surged during the COVID-19 lockdown. Authorities in the capital city have said they will "provide better security to cyclists" who use dedicated bicycle lanes. Since the lockdown began in late March, 80 kilometres of temporary bike lanes have been added, and are now going to become permanent.

OAKLAND, CALIFORNIA, USA – About 10% of the streets in this city are now being turned over to bikes and pedestrians.



already introduced measures to keep cars away from the school gates. Roads are being closed, “walk-to-school” initiatives have been set up and kids at one school started a “park-and-stride” scheme where people leave their cars away from the school and walk to the gates together.

WHAT LEADERS CAN DO

Our leaders have the power to take steps that could keep air pollution levels low after the coronavirus pandemic passes. Here are some ideas:

WHAT WE CAN DO

Can individuals like you do more to reduce air pollution after the lockdown eases? Here are some ideas:

- 1 You could encourage grown-ups to drive less, where possible, and to car-pool (share a car journey with others going to the same place).
- 2 You could also encourage grown-ups to stop idling. This is when a driver leaves the engine running when the car is parked. It contributes needlessly to air pollution. This is particularly a problem outside schools.
- 3 Ask your school to consider a car-free zone. Thousands of schools across the country have

2 They could encourage people to switch to electric cars, which don’t emit harmful pollutants. This could be done, for example, by offering people money to switch from a diesel vehicle to an electric one.

3 They could put more money into public transport to make the tickets cheaper. This would encourage people to use trains, trams, buses and underground trains rather than drive everywhere.



- 1 They can introduce more car-free zones in towns and cities, encouraging people to walk, cycle or take the bus. Car-free days could become a regular feature (once a week, or once a month) to help reduce the overall pollution level.



YES, MORE SHOULD BE DONE TO TACKLE AIR POLLUTION NOW



1. AIR POLLUTION IS DEADLY SERIOUS –

Air pollution is responsible for so many serious health problems. Before lockdown, the situation was only getting worse. In the last few years, scientists have started to gain a good understanding of how harmful it can be. We cannot wait any longer – we must do more now.

2. THE LOCKDOWN OFFERS AN OPPORTUNITY –

COVID-19 has been a terrible crisis, but the lockdown has been positive for the environment and especially good for our air quality. Let's not waste this opportunity to take positive action after the lockdown eases.

3. IT WOULD HAVE PUBLIC SUPPORT –

Many people have noticed the cleaner air during lockdown and appreciated it. Those who suffer from asthma or other breathing conditions have felt a real improvement. Nobody wants to breathe in dangerous, dirty air. The lockdown has shown that change can happen.



NO, NOW IS NOT THE TIME TO DO MORE TO TACKLE AIR POLLUTION



1. THE PRIORITY HAS TO BE THE ECONOMY –

The UK economy is suffering greatly as a result of lockdown. Many people have lost their jobs and businesses have gone bust. The Government's priority must be to help get the economy going again, not to focus on shutting down parts of cities for walkers and cyclists, or banning cars.

2. IT'S TOO EXPENSIVE –

It will cost the Government billions to tackle air pollution now. It's better to wait for the country to get back on its feet after the COVID-19 crisis, then politicians can think about the fight against air pollution.

3. PLENTY IS ALREADY BEING DONE –

Obviously air pollution levels lowered in lockdown, because far fewer people were going out. But the truth is that many individuals and the Government have been doing plenty to tackle air pollution since long before the pandemic struck.



DISCUSS • 

Do you worry about the quality of the air you breathe?

DISCUSS • 

Why is air pollution such an important issue?

DISCUSS • 

Do you think enough is already being done?

DISCUSS • 

Have you noticed the air being cleaner during lockdown?

DISCUSS • 

Would you take any action to help reduce air pollution?

DISCUSS • 

Should more roads become closed to cars?

DISCUSS • 

What should our politicians and leaders do to help reduce air pollution?

DISCUSS • 

What might be the problems with permanently closing roads to cars?

DISCUSS • 

How could people be encouraged to drive less?

DISCUSS • 

Is now a good time to take big steps to reduce air pollution, or should we wait until the COVID-19 pandemic is over?