

The Industrial Pollution FAQs



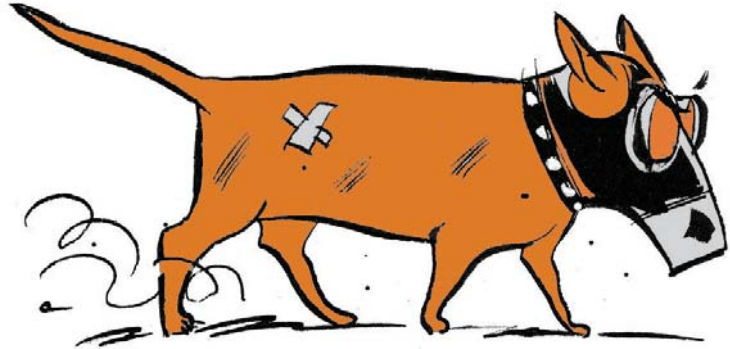
**Friends of
the Earth
Scotland**

The Industrial Pollution FAQ-sheet

Do you live near a factory site? Do you see smoke and wonder what you're breathing in? Are there smells near your house or sewage in your stream? Do you worry that your health might be affected? Want to know more about what's going on? Want to do something about it?

About this Guide

This guide is designed to answer your questions about pollution, factories, your health, your rights, and the law to do with pollution in Scotland. FAQ stands for Frequently Asked Questions. It starts at the beginning and it's written for you. You don't need any experience, just a bit of time to read and the willingness to improve your local area.



1. **Your Health FAQs** - Industries use and release a large number of different chemicals. The Health FAQs explain how many of these could be damaging your health.
2. **Law FAQs** – A factory is only allowed to release a certain amount of chemicals. Releasing more is breaking the law. You can use these laws and others to make sure your health is safe.
3. **The Science FAQs** – Understanding how pollution acts in air, land and water lets you know the dangers in your local area.
4. **The Action FAQs** – Sometimes it's up to you to take action and improve your local factory. Want some practical advice on what to do? This bit's for you then

Industry in Scotland

Industry is vital to Scotland. There are six non-renewable power stations, almost three hundred chemical manufacturing plants, about one-hundred and fifty paper mills, three hundred quarries and over eight thousand factories. These provide jobs, consumer products, and a sustainable economy. Industry is essential to our everyday lives but we must not overlook the wider environmental and health impacts.

A Few Words You Need to Know

The Environment

The environment is not a distant far off thing; it's all around us. It's the air we breathe, the water we drink, the food we eat, it's our homes and our gardens, the soil in which we grow our food and the city, towns or countryside where we spend our lives. We live in the environment.

Chemicals

Everything you touch is a chemical substance: water, soil, food, your car and your coffee mug, even you and your friends are made entirely from chemicals. Often chemical substances can be involved in reactions with other chemicals. Reactions create new chemical substances.

Industrial pollution

Polluted air, water or land contains unwanted chemicals that can damage our health and the health of the environment. Waste made in our factories and released into the environment is where many of these polluting chemicals come from. In some areas, this waste from nearby factories or plants may be affecting the health of the local people. This is industrial pollution.

1. Your Health FAQs

So, What's Dangerous to my Health?

Many chemicals have the potential to harm your health. Toxicity measures how dangerous a chemical is. A highly toxic chemical can be harmful in very small amounts while a chemical of low toxicity will only be dangerous if lots of it enters our body.

Moving From the Environment to You

Chemicals in the environment can only affect your health if they enter your body or touch your skin. This can happen through your lungs, your stomach and guts or through your skin. The amount of a chemical that enters your body is called the dose.

Accidents where toxic chemicals are spilt or released into the air can result in acute exposure. This means a one-off incident where your body is exposed to a large amount of toxic chemicals for a short time. You are likely to feel the effects of this straight away, for example coughing, headache, rash and possibly death.

You are much more likely, however, to experience chronic exposure. This means on-going exposure everyday to low levels of toxic chemicals over a long time. The effects and diseases due to this type of exposure will not be felt straight away but possibly months or years later.

Toxic Chemicals in Your Body

Three things affect how your body responds to toxins:

- The more toxic chemicals that enter your body the more your health will be affected, in other words the bigger the dose the more your health will be affected.
- The more toxic these chemicals are the more your health will be affected.
- The longer these chemicals stay in your body the more your health will be affected.

Over time the human body will break most chemicals down into smaller chemical

products that will dissolve in water, like sugar in tea. This allows the body to quickly and easily get rid of these chemicals when you go to the toilet or when you sweat.

Unfortunately some toxic chemicals, like dioxins, do not easily break down and will become stored in the body's fat. Chemicals that become stored in our fat reserves can stay in the body for a very long time.

Chronic (long-term) exposure to this kind of 'fat-seeking' chemical can be dangerous. If you experience even very small amounts of a chemical everyday the amount in your fat will build up and up because your body can't remove it. Over time you may build up enough toxic chemical in your fat to create serious health effects, like cancer or problems with the nervous system.

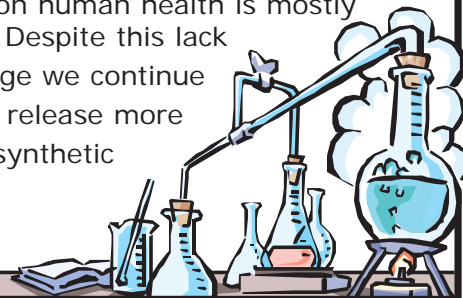
Also, old or young people and those who are already ill may be more affected by toxic chemicals compared to healthy people. Some chemicals may also affect men and women differently due to differences in the male and female body.

Man-Made Chemicals

Since the industrial revolution two hundred years ago humans have been making more and more synthetic chemicals. These are chemicals that do not exist naturally on the Earth but have been designed and made by man.

Today toxic and non-toxic synthetic chemicals are all around us. Detergents, drugs, soaps, deodorants, shampoo, paint, computers and plastics are all everyday things that contain synthetic chemicals. These products and the waste released by the industries producing synthetic chemicals are now in our air, water, soils, and increasingly in our bodies.

The long-term effect of many of these new chemicals on human health is mostly unknown. Despite this lack of knowledge we continue to use and release more and more synthetic chemicals.



The Precautionary Principle

If some tests on a chemical showed the possibility of it being toxic then most people would say we probably shouldn't use that chemical, "Better to be safe than sorry". In law this approach is called the Precautionary Principle. It says that lack of conclusive proof that a chemical is dangerous shouldn't stop us from using cost-effective ways to prevent environmental damage, which could include banning the use of that chemical. The Precautionary Principle is favoured by many environmental organisations as an approach for dealing with chemicals used in industry.

and some mixtures produce health effects that our tests on individual chemicals did not predict. Chronic exposure is especially hard study as the tests need to run for a very long time and the health effects can take many years to become serious.

It is a fact that our tests are never conclusive. Because of this the risk of using a chemical must be balanced against its benefits. It's a bit like deciding to drive a car: you know you might be injured on the road (0.3% of people in Scotland were in 2006) but most of the time the benefit of getting to where you want outweighs the risk so you drive.



Testing Toxicity

Tests are done to help us decide how dangerous or toxic a chemical might be to human health. These tests are usually done on mice and rats in a laboratory and if possible include looking at human health after accidental exposure to the chemical.

One of the aims of this testing is to find a maximum amount of the chemical that has no effect on human health. This is called the No Observed Adverse Effect Level or NOAEL. This number is used to work out how much of the chemical it is safe for humans to release into the environment through things like factories and exhaust fumes.

These tests have some problems. In our environment we are exposed to a mixture of toxic chemicals from many different sources. In our bodies these different chemicals interact in ways we don't fully understand

Silent Springs

In 1962 farmers were using the pesticide DDT. In the same year, research scientist Rachel Carson published the book 'Silent Spring' alerting the public to the dangers of DDT. She spoke of a spring in the future without songbirds because pesticides prevented their reproduction. Carson was personally and professionally attacked by the pesticide industry but the evidence proved her right. After years of campaigning DDT is now banned for agricultural use worldwide.

Next Steps

- Have a look at the SEPA's substance information www.sepa.org.uk/spri/substance/sublist.aspx for information about the known health effects of specific chemicals.

2. PPC Law FAQs

Scottish law controls the pollution produced by our factories. You have the right to live without pollution affecting your health but to make sure this is the case it's important to understand how the law works.

So, where do I begin?

You've already begun! This FAQ-sheet will run you through what you need to know to start making a difference.

Scottish law controls industrial pollution through a set of rules called the Pollution Prevention and Control regulations, or PPC regulations for short. These regulations are pretty long and complex: here's a simplified version.

First thing: Who's responsible?

It's the job of the Scottish Environment Protection Agency (SEPA) to look after the running of the PPC regulations and to make sure all our factories are following them.

Ok, How do SEPA do that?

A company wishing to run a factory that has emissions to the environment must first apply for a permit to do so from SEPA. The company or factory operator must complete a detailed application form that includes details on industrial processes performed, emissions (including noise, odour, heat releases to water and air), waste products produced, management strategies and a chapter on environmental impact and human health effects.

SEPA looks at each application and decides if they should grant a permit that allows the company to operate their factory or plant. The public have the right to voice their opinions at this stage. SEPA should reject the company's application if:

- the factory hasn't made enough effort to minimise its environmental impact
- it is thought the factory will damage the environment in an unacceptable way.

There is more on how SEPA deals with PPC applications for permit and how to get involved at: www.sepa.org.uk/ppc/ppd

This Factory's Already got a Permit!

The permit is a legal document and will state the level of emissions (chemicals) a factory may release. If the factory releases more than this they are breaking their permit conditions and SEPA has powers to do something about it.

SEPA does keep a check on factories. The PPC regulations require factories to measure the amount of specific chemicals they release and give this information to SEPA. This information is called environmental monitoring data. This data will tell SEPA, and you, if the factory ever releases more pollution than they are legally allowed under their permit conditions.

SEPA may also spot-check the factory and carry out independent monitoring. There should be more monitoring where the emissions pose a greater threat to the environment and your health.

Legislation background

Two pieces of legislation, Integrated Pollution Control (IPC) and Local Air Pollution Control (LAPC), have regulated industrial processes since 1990. In 2000 the new Pollution Prevention and Control (PPC) regulations were introduced and are currently replacing the old IPC and LAPC regulations in steps. This replacement should be mainly complete by October 2007.

Since 2000, the new PPC regulations have been amended various times. These amendments clarify the original regulations and 'bolt-on' other regulations.

- The full PPC legislation document and amendments are available at:
www.sepa.org.uk/ppc/legislation

What if factories aren't following their permit?

- **Notices** - If the permit conditions are broken SEPA has the power in law to issue an Enforcement notice. These notices include the steps operators must take to start following their permit. Also, a permit may be suspended with a Suspension notice or withdrawn with a Revocation notice.
- **Court Action** - SEPA may take steps to bring a factory operator to court if they do not follow the Enforcement notices or seriously break conditions of their permit by reporting them to the Procurator Fiscal. Court actions and

Part A and Part B

The PPC regulations define two types of industrial activity, called Part A and Part B. Part A sites are generally larger industrial sites and the regulations cover all types of emissions to air, water or land. Part A industries have the greatest potential to pollute. Part B are smaller sites where the PPC regulations cover emissions to air. Emissions to water, at these smaller sites may be covered by separate regulations known as Controlled Activities Regulations (CAR).

Part A industries include metal works, chemical factories, oil and gas works, pharmaceutical (medical drug) manufacture, landfills, paper making, intensive poultry and pig rearing and food processing sites.

Most Part A industries used to be regulated by the IPC and Part B industries used to be regulated by LAPC. Some industries, for example intensive poultry and pig rearing are being brought into regulation for the first time. After October 2007, all Part A and the majority of Part B processes will be regulated by the PPC regulations.

- Full descriptions of Part A and Part B activities are included in Schedule 1 of the PPC Regulations 2000 at www.sepa.org.uk/ppc/legislation

most notices are used when SEPA thinks they should. In addition if in SEPA's opinion there is a 'risk of serious pollution' SEPA must issue a Suspension notice or take steps to "remove that risk".

- **Appeals process** – A factory operator may appeal any Enforcement notice through the Scottish Ministers. The appeal may be discussed through letters or by a hearing if requested by SEPA or the operator. A Scottish Minister appointed person would decide whether this hearing will be public or private. Scottish Ministers may reject the operator's appeal or withdraw SEPA's notice and give advice. During the appeals process the factory must follow any notice already given, except in the case of a Revocation notice.
- **Polluter pays** - If there is a pollution release that requires action, SEPA may arrange to clean the affected area and then charge the company responsible for the pollution. The company must pay SEPA, or prove that there was no pollution emergency or there were unnecessarily high costs involved.

Finding out about your local industry

That is a summary of how the law and how SEPA regulates polluting factories. You can find out more about the specific factory or factories that might be affecting you and your environment at your local SEPA office.

All PPC applications, permits, environmental monitoring data and enforcement actions are available to the public. All this information is held at SEPA offices around Scotland in their libraries, which are called Public Registers. Have a look at the *Action FAQs* for a guide to viewing the details of your factory at SEPA's public registries.

3. Industrial Science FAQs

What is pollution?

Pollution can be defined as unwanted chemicals or substances that are damaging to the health of the environment or human health, and often both. The word 'pollutants' means the actual chemical or substance that is causing the pollution.

Pollutants can exist as a liquid, solid or gas. As a result, pollution can be almost anywhere in our environment - in the land, water, living things or the air. Pollutants can move between these different places. In fact for human health to be affected by air pollution the pollutants must pass from the air into the human body, usually through the lungs, and into the blood stream.

Chemicals in the Environment

A range of non-toxic to very toxic chemicals are released into the environment by human activity everyday. Three things can happen to these chemicals:

- Chemicals will break down over time, like leaves rotting in your garden. Most chemicals will break down and produce other chemicals that are less toxic. Some take a few minutes to break down while others take years.
- Some chemicals are described as persistent. This means they take hundreds of years to break down into less toxic products. Imagine a crisp packet in a pile of rotting leaves. The crisp packet could be described as persistent as it will not change even though the leaves break down to compost.
- Some chemicals will break down in the environment into products that are more toxic than the original chemicals.

Common Industrial Pollutants

You can find out which pollutants your local industries might be producing from the factory's PPC application held in your local SEPA office – see the *Action FAQs* for help.

Air pollution

- Particulates
- Heavy metals
- Volatile organic compounds (VOCs)
- Dioxins and polycyclic aromatic hydrocarbons (PAHs)
- Nitrogen oxides (NOx)
- Sulphur oxides (SOx)
- Global air pollutants
- Smells
- Visual pollution

Land Pollution

- Organic chemicals
- Heavy metals

Water pollution

- Ammonia
- Heat
- Too many nutrients
- Heavy metals
- Organic chemicals

More detailed information about the nature of these chemicals is available in Annex 3 of the 'Friends of the Earth's Polluting Factory Campaign Guide'. www.foe.co.uk/resource/reports/polluting_factory_campaign_guide.pdf.

See *Your Health FAQs* for an introduction to how chemicals could affect your health.

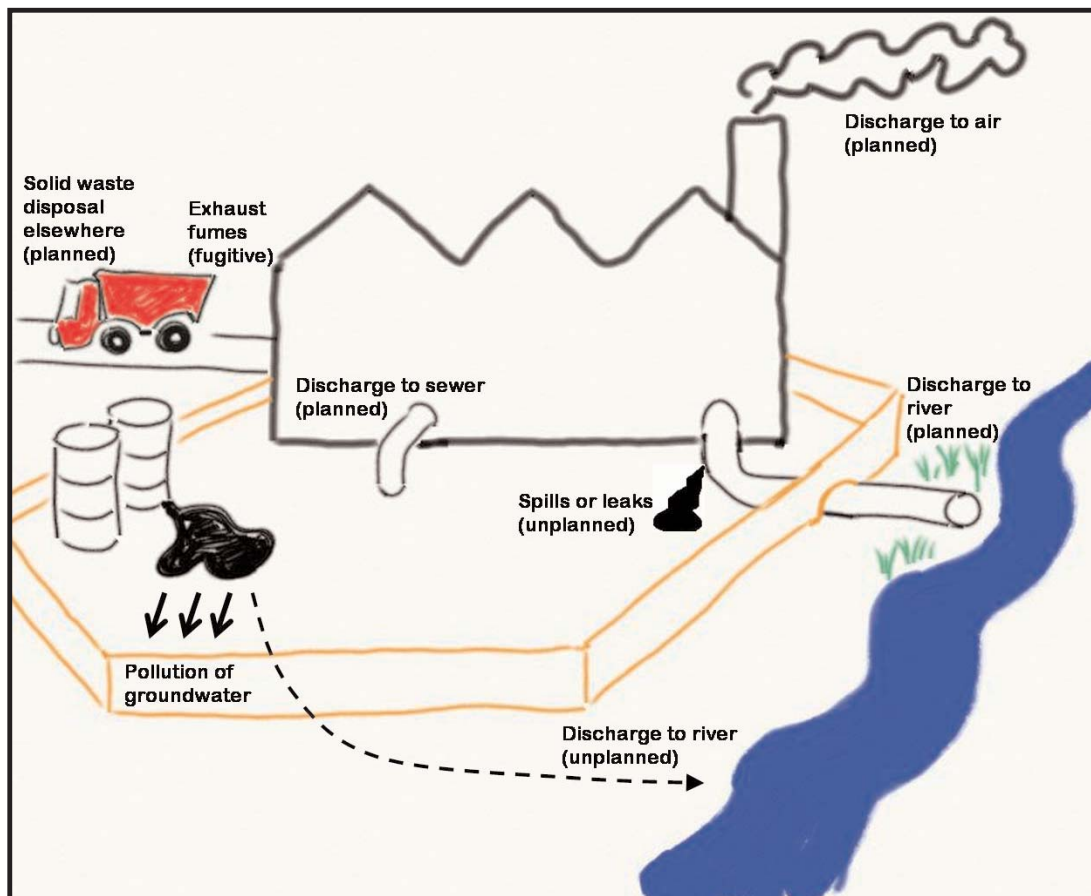
Sources of Industrial Pollution

The source of pollution affecting you or your environment may not be immediately obvious. If you live close to a few industries you may not know which factory is polluting, or possibly the discharges from a few factories are combining to create a pollution problem. With a little investigation you may be able to work this out for yourself, if not, ask SEPA for help. An understanding of the various ways in which waste is discharged is essential.

- **Planned Releases** are intentional pollutant discharges through smokestacks to the air or through pipes to a sewer or river. The pollutants may undergo some kind of treatment to make them less harmful before discharge. As described in the Law FAQs, the permits issued to factories by SEPA define how much waste they may discharge. As long as these limits are not exceeded the factory is not breaking the law. However legal discharges may still be polluting the environment. In these cases you may need to push SEPA for a change in the permit.

- **Unplanned Releases** are chemical discharges that were not supposed to happen. These could be liquid or gas leaks from badly maintained pipes or accidental spills of chemicals. Spills are the most common cause of severe pollution incidents. Factories may build low containing walls called bunds that are designed to contain accidental spills. Unfortunately there are cases where these walls are in poor repair, contain gaps or even have drains inside the containment area that deliver the spilled chemicals straight to the river!
- **Fugitive emissions** do not help the factory produce its product and may be planned or unplanned. Examples include emissions due to equipment leaks, overflow valves, windblown dust, evaporating fuel or the intentional flaring of natural gas.

Unplanned releases (and many fugitive emissions) will not be monitored but better planning and good practice by the factory operator can reduce their impact on human health and the environment.



Pollution in the environment

When polluting chemicals leave a factory through planned or unplanned emissions they enter our complex and changing environment. Pollution in the air might reach the land through rain, it might then be taken up by plants and eaten by animals or humans, or the polluting chemicals might travel large distances through streams and rivers.

If pollution is to affect your health the polluting chemicals must travel from the source of the pollution, e.g. a stack or pipe, through the environment to the human body. This travel happens in different ways depending on whether the pollution is in the air, land or water.

Next Steps

The Air, Land and Water Pollution FAQs offer a beginners guide to pollution in these three environments. So read on!



Air Pollution FAQs

Industrial Plumes

Factories get rid of some waste through tall chimneys called smokestacks. This waste often contains potentially polluting chemicals. The flow of waste you can see from a stack is referred to as the plume, which is basically the smoke you see coming from the factory chimney. This plume will travel through the atmosphere and disperse (spread out) as it moves.

As a plume spreads out the pollutants in the waste mix with the air and become more and more dilute. The idea is that stacks are built tall enough to allow the pollution time to dilute down to a concentration that is thought to be safe before it reaches our lungs. That's why stacks are so tall.

Fugitive Emissions

Fugitive emissions, like gas leaks or evaporating petrol, will generally be released close to the ground surface. This may not allow enough time for the pollutants to mix with the air and dilute to a safe level. For people living close to a factory or landfill site, fugitive emissions may be an important source of pollution that is not normally monitored.

How does air pollution travel?

If the plume is hotter than the surrounding air it will move upward. If the plume is colder than the surrounding air it will sink down. If a plume sinks there will be less time for it to spread out and people living close to the factory will breath in more pollution.

The direction of the wind controls the side-ways movement of air pollution. So if you are down-wind of a pollution source, like a factory, you are more likely to be breathing in the air pollution.

How could air pollution affect me?

If air pollution exists in the air that you breath then your health may be affected. The more concentrated the pollution is the greater the effects will be but even very small amounts of pollution over a long time could have an effect on your body. Read the Your Health FAQs for more information.

Land Pollution FAQs

We live off our land. The soil gives us food, plants, building materials and provides a home for our wildlife. The groundwater that is stored in the land provides a safe and dependable source of drinking water. Pollution does however affect some of Scotland's land.

Scotland's soil

Soil is made of really small grains of rock, old plants that have died and are rotting, water, air and tiny living things called micro-organisms. There are many types of soil each with a different chemical make-up. The local rock type, climate, and vegetation cover all contribute to your local soil type.

All soils can receive a certain level of pollution and remain healthy. This is because the organisms in the soil break the polluting chemicals down into harmless chemicals. Too much pollution however and the organisms themselves will die and the soil loses its ability to deal with any further pollution.

Food and plants growing on polluted land can be poisoned by the pollution and won't grow as well. They will also absorb some of the pollution and may be harmful to eat.



How does land become polluted?

Land pollution may come from leaking storage tanks, poorly looked after pipes, accidental spills of chemicals used in industry, or waste that is dumped on the land itself. Typically, industries like oil refineries, metal smelters, the textile industry, mining works and chemical works create the most land pollution.

How is land pollution defined?

Land that is polluted is commonly referred to as contaminated land. It is important to know the legal definition of contaminated land if you are to convince your local authority that your garden or allotment is polluted and needs cleaned up.

Under Part IIA of the Environment Protection Act 1990 contaminated land is defined as:

"any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- significant harm is being caused or there is significant possibility of such harm being caused; or
- pollution of surface waters and ground water is being, or is likely to be, caused."

'Harm' in this sense means damage to human beings, ecological systems, living organisms, crops, produce, livestock, or buildings.

What happens to pollution in the soil?

The soil can act like a sponge for pollution. It may hold polluting chemicals and stop them from reaching the river or air environments. The chemicals may be stored in the soil, broken down by organisms or be involved in chemical reactions with various consequences. What happens to the pollutants is dependent on various factors that are outlined below.

- Pollutant characteristics – Each type of polluting chemical will act within the soil environment in a certain way depending on what type of chemical it is.
- Soil acidity – pH is a measurement of how acid-like something is. pH 1 represents the most acid-like while pH 14 represents the most alkaline or least acid-like. A healthy soil will have a pH between 5 and 8. With lower soil pH (more acidity) some chemicals, like heavy metals, dissolve more easily in water. This means the chemicals can move into the groundwater and into plants and animals leading to a potential health risk for humans that drink that water or eat those plants and animals.

How can land contamination affect me?

If there is a pathway for the polluting chemicals present in the soil to pass into the human body there is a risk that your health will be affected. The potential pathways are: the ingestion (eating) of soil, dust or vegetables; dermal (skin) contact of polluted soil; and inhalation (breathing) of dust or pollution vapour.

There are further potential pathways if the pollution in the soil passes into the groundwater. Groundwater flows slowly through the soil and rock and may eventually be discharged to a river or extracted through wells for drinking water.

Pilton Polluted

One area of Pilton, Edinburgh is right next to land polluted by years of heavy industry on the site. The recent clean up of the land created dust and several residents complained of illness. Soil tests showed the land was today within the safe levels for pollution. However, the cumulative effect on peoples' health over years of pollution is more difficult to study.

- Soil moisture and temperature – Moisture and temperature also partly control the time it takes for polluting chemicals to break down in the soil. Pollutants that have broken down are generally not dangerous to human health.
- Clay content and organic matter – Clay is a type of rock with very tiny grains and organic matter is the remains of dead plants and animals. Many polluting chemicals tend to stick to clay and organic matter so more of these grains mean more pollution will stay in the soil and break down.

Further Information

- The North West Food & Health Task Force provides a good guide to assessing and dealing with potential land contamination: www.farmgarden.org.uk/Documents/ContaminatedLand.pdf. Note: This guide was written for England and Wales. If you live in Scotland, substitute SEPA for where the Environment Agency is mentioned.
- Find out what happens when pollution reaches the human body by reading our Health FAQ's page.
- Detailed profiles of industries and their risk to the land are available at www.environment-agency.gov.uk/subjects/landquality/113813/1166435.

Water Pollution FAQs

Water is the basis of all life. The human body is two-thirds water; it transports all our nutrients, allows our cells to grow, gets rid of our waste products, keeps us cool and performs thousands of other essential functions. Almost all chemical reactions involve water or take part in the presence of water. For this reason the behaviour of polluting chemicals in water is complex. This page summarises the important facts relevant to reducing water pollution in your local environment.

Factory waste and treatment

The liquid waste that is discharged from a factory is called effluent. This effluent reaches the river through discharge pipes. These pipes can normally be seen sticking out from the river banks.

If the effluent is known to be harmful it will be treated within the factory to make it less dangerous and to recover materials that can be recycled. The level of this treatment can vary greatly. After this initial treatment the effluent will either be discharged directly to a river near the factory or it will be discharged to the sewage system. In the sewage system the effluent will be further treated with the rest of the household sewage before being discharged to a nearby river.

The pollution risk

In some cases this treatment is not good enough and the river downstream of the discharge pipe can become polluted. More commonly, the treatment under normal conditions is fine but during floods there may be a pollution release. The extra water present during heavy rain will flood the treatment works. Effluent entering the works for treatment will be discharged to the river through overflow drains and will not receive the treatment required to make it safe to the environment.

Groundwater pollution is another form of water pollution. Most commonly this occurs as a result of a chemical spill on land.

Pollution transport in water

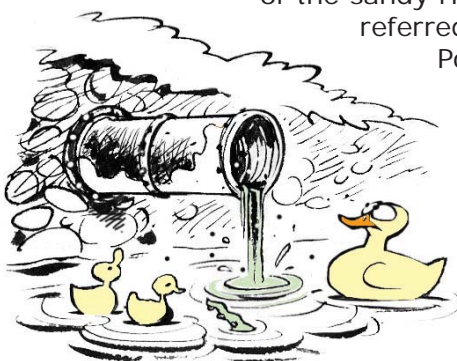
Pollution that is present in water will follow in the direction of the water flow. In other words pollution will always flow downstream. As the polluting chemicals move downstream they will disperse (spread out) and become more and more diluted. This happens due to the natural mixing of moving water.

How Do Chemicals Act When In Water?

A wide range of chemicals can be present in water. Some chemicals in a liquid state may mix with water, like diluting juice, and most solid chemicals used in industry will dissolve in water, like sugar in tea. The major exceptions to these are hydrocarbons. Hydrocarbons are substances like oil, petrol, diesel, tar and bitumen. These substances will not mix or dissolve in water but will tend to float on the top of the water and form a shiny layer.

Many solid chemicals that dissolve in water may become solid again in the future. This will be due to small changes in the water's chemical make-up. It is common for pollution released into water to become part of the sandy riverbed. This sand or silt is referred to as the river sediments.

Polluting chemicals may be released slowly from the sediments for many years following a pollution incident. This means a river or loch may remain polluted for a long time after a factory stops discharging effluent.



How could water pollution affect me?

For water pollution to affect human health, humans must come into contact with the pollution. This can occur through drinking polluted water or through dermal (skin) contact. Some polluting chemicals may evaporate from the water and be inhaled (breathed in) by humans close to the water.

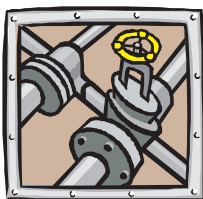
Read the Health FAQs to find out what happens once the polluting chemicals have reached the human body.

4. The Action FAQs

Finding Out More

What's Going On In the Factory?!

At first sight, factories often seem mysterious places. What's going on inside?



A basic knowledge of the industrial processes that your local factory uses to make its product can really help you understand where the pollution is coming from.

The easiest way to find out about how the factory works may be to ask the company itself. You could write or visit in person explaining who you are and what you want to know. Take notes and ask for the contact details of the person you speak to. If you find the company is unresponsive or has not provided enough information you may look to SEPA for advice.

How SEPA Can Help

SEPA have lots of information on every factory in Scotland in their office libraries, called public registers. Every factory's PPC application, permit and environmental monitoring data are available to look at and copy.

You can find out how the factory makes its product, its expected environmental and health impacts, how much waste it has released to the environment and importantly how much waste it's allowed to release.



Where are the Registries?

They're in Aberdeen, Edinburgh, Perth, Stirling, East Kilbride and Dingwall and all are open 9.30am to 4.30pm, Monday to Friday. Your local register will hold the information on your local industry. Your local office address and phone number will be under SEPA in the phonebook.

If you can't visit a Public Register you can request SEPA to email or post you the information you need. If you request lots of pages SEPA may charge you for this service but often it will be free. The information is available under the Freedom of Information Act 2002 and Environmental Information Regulations 2004.

- Find out more from the Scottish Information Commissioner:
www.itspublicknowledge.info or
phone 01334 464610.

Your Visit to the Public Register

This can be a bit daunting but don't worry! This section will tell you what to expect and what to look for. Remember the public registers hold the factory's PPC application with a description of what processes it uses to make its product, the factory's permit from SEPA to release a set amount of waste and the pollution monitoring information that has been collected in the past.

You don't need to make an appointment but phoning up beforehand means you can check the files exist at that office and find a quiet time to visit. In the register the files will be brought to you and you'll be left to look at them yourself.

Understanding the Files

There will be a large volume of paper organised with the most recent files at the front and older ones at the back. You may photocopy anything using the register's machine. The PPC application will be at the back of the folders. In front of this will be some letters followed by the permit document. The permit document defines how much pollution that factory may emit by law. In front of all this will be any monitoring data and amendments to the permit. By comparing the permit and its amendments with the monitoring data you can see if the factory is breaking the law and releasing more pollutants than they are allowed.

For Part A PPC application forms, Chapter B4 contains the environmental impact and human health effect assessment and Chapter F10 contains a useful non-technical summary of every section written for easy understanding. Part B factories are less polluting but if there is still a pollution problem you can look at their files.

Help from an Environmental Protection Officer is available but you will have to ask for it. If you get stuck don't feel shy to ask - in our experience all the staff are very cooperative. Explain who you are and why you're there in order to best get the information your looking for.

What next?

- Now you have learnt a bit more about the industry and know what pollutants are being released you can have a look at the Health FAQs and SEPA Substance Information for more information on the health effects of the specific pollutants.
- If you are confused by some technical terms the website Wikipedia is a good place to look. This page on industrial processes http://en.wikipedia.org/wiki/Industrial_process has explanations and links to more information.
- Read on for how to set up a Good Neighbour Argeement or campaign successfully to get results.

Doing Your Bit

Industry can damage our health and the environment but it's often the millions of people using household chemicals, wasting energy and creating unnecessary rubbish who create the worst pollution.

Here are a few tips for your household:

- Use less cleaning chemicals, or even better, eco-friendly alternatives.
- Reduce the rubbish you create when buying food and other products by choosing those with less packaging.
- Switching to a green energy company will create a healthier environment for everyone.
- Recycling means less energy is used creating new products and why not start composting the veggie peelings at home.



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Good Neighbour Agreements

Good Neighbour Agreements (GNAs) are one way in which communities and a company can work together to improve upon the rules and regulations in law. GNAs have been used successfully in the USA for many years and in 2000 the first in Britain was signed between Douglas Community and an incinerator operator, Dundee Energy Recycling Ltd. Under the Planning Etc (Scotland) Act developers will be encouraged to set up a GNA with the local community

GNAs are a signed agreement between the company and the community. As a minimum the basic agreement should include the following, but could be much more:

- Community decisions are made at public meetings, community groups or even local ballot but without the company's influence.
- The GNA sets standards higher than the ones in law and can cover issues that are not in the law, like the consideration of school opening and closing times when planning truck deliveries.
- The GNA is not a fixed document but can be easily improved in the future by annual review or as problems arise.
- The community must be able to take action if the company does not follow the agreed GNA. Examples of action include bad press, boycott, protest and industrial action.
- Experts like scientists, engineers or lawyers that help the community must have the right to attend meetings.
- GNAs must be open to all those affected by the companies activities

Other examples of what could be included are the right to visit the factory or industry with a SEPA representative, easy access to environmental monitoring information at a local library, consultation on the accident emergency plans, a community benefits fund, good employment opportunities for local people, better monitoring and a reduction in emissions.

To set up an agreement first look into what the company is required to do under its planning consent and PPC permit conditions. You as a community can then decide what extra you want to ask of the company. You could ask your local Councillor or a trade union representative to approach the Operational Manager, Chief Executive or Board of Directors for a meeting. If the company refuse to agree to a meeting, point out the benefits of improved relations and public image, and if they still don't agree contact the local paper and give them some bad press.

Further Action Reading

Good Neighbour Agreements:

www.foe-scotland.org.uk/nation/good_neighbour.pdf

Complaints to Campaigning – 3 Step Community Guide

Why get involved?

Industrial pollution can have long-term health effects on you, your children, the environment and others living around you. It's easy to assume that the authorities are aware of the problem but you could be wrong. If you haven't complained, chances are, no one else has either and the authorities need those complaints to justify intervention. The number of complaints also makes a big difference; so don't just rely on others to do it. Your voice counts!

Results don't always come easy. Use the following steps to guide your course of action. Alternatively, just dip in for tips and ideas and tailor your own plan.

Complaints that get results

Complain to the right person

You can phone SEPA's 24-hour Pollution Hotline on 0800 80 70 60 if you suspect there's been a pollution incident. If you're worried about the long-term effects of industries you may wish to contact your local SEPA office or the environmental health department of your council.

Prepare & record your complaint

Gather a few facts before you make that call (in fact, written complaints are more effective). What is the problem? Where is it coming from? When and how often is it happening? How bad is it? Ask the authority what they are going to DO about it? Make a note of whom you are speaking to (or keep copy of your letter) and note the date and actions they say they will take (you may need this later...).

Demand to be kept informed

This doesn't come naturally to all authorities and it's easy to assume that no news means nothing is happening. Asking for updates on the progress of your complaint helps establish a dialogue and gives everyone a better understanding of the problem. It will also help you further down the line if you're still unhappy with the results.

Following up complaints

Find out what's been going on

If the problem isn't resolved, don't hesitate to get back to the authority to ask why they can't (or haven't) fixed the problem (preferably get this in writing). Perhaps they've looked into the matter and just haven't let you know. Also, reminding them the problem is still ongoing may spur them into action. There can be a whole host of reasons why complaints are not resolved, e.g. legal difficulties or lack of resources. It may be that the authority just doesn't think the matter is serious enough.

Arm yourself with the facts

Have a look at the Finding Out More section for some helpful advice on getting more information from the factory and SEPA. Use our Law FAQs to check the authority has performed all its legal duties and used all relevant powers. Learn more about the issue with help from our Science FAQs section.

Now, get back to the authority and argue your case

If you think the authority hasn't done its job properly, use their 'complaints procedure' to get someone 'higher up' to look at the problem.

Starting a campaign

If your letters and phone calls of complaint are not being listened to and there are still reasonable grounds to believe you are being affected by pollution from your local factory you may decide to start a public campaign. This will involve you, local residents, councillors, newspapers and maybe your Members of Parliament and can be a great way to achieve a result.

Friends of the Earth (England, Wales and N. Ireland) have produced a Polluting Factory Campaign Guide

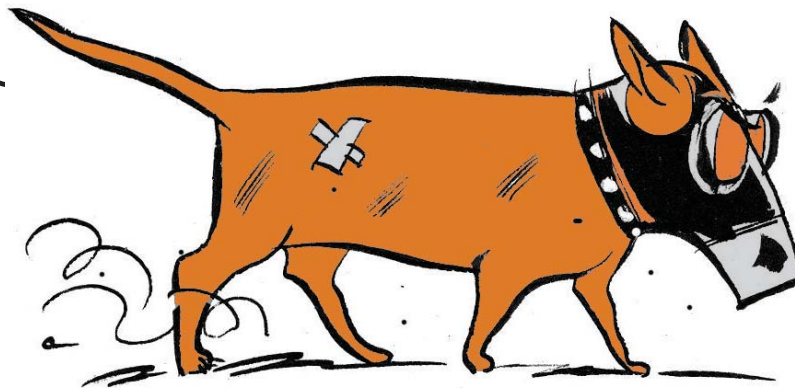
www.foe.co.uk/resource/reports/polluting_factory_campaign_guide.pdf that gives great advice and help with running a successful campaign. The law has changed since this guide was written so ignore the sections on regulation (Sections 4-9) and any other mention of the law. Read our *PPC Law FAQs* for up to date information relevant to Scotland.

The last word

Hopefully this FAQ-sheet has been useful. You should now feel more willing to speak to and work with the people, authorities and companies that affect you and your community's life. Go for it!

If you have more questions about factories or industrial pollution in Scotland get in touch with Friends of the Earth Scotland. Our contact details are below.

We would also like to hear your feedback or comments to help us improve in the future.



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