GPP 1: A general guide to preventing pollution

Guidance for Pollution Prevention

Name: GPP 1

Date 30/10/2020

These guidelines are produced by the environmental regulators Natural Resources Wales (NRW), the Northern Ireland Environment Agency (NIEA) and the Scottish Environment Protection Agency (SEPA).

For Northern Ireland, Scotland and Wales, this document provides guidance on environmental legislation.These guidelines are not endorsed by the Environment Agency for use in England however you may find them useful. For guidance on environmental regulations in England go to www.gov.uk

To find the relevant regulations visit www.legislation.gov.uk

Guidance for Pollution Prevention documents are based on relevant legislation and reflect current good practice. Following these notes will help you manage your environmental responsibilities to prevent pollution and comply with the law.

If you cause pollution or allow it to occur, you may be committing a criminal offence. Following these guidelines will help you reduce the likelihood of an incident. If one does occur contact your environmental regulator immediately on the hotline number 0800 80 70 60

Contents

Section 1: What's in it for you?

1.1 Legal compliance

The basis of any good environmental performance is compliance with environmental regulations. You must be aware of your environmental responsibilities and make sure that you operate in a completely legal way.
Non-compliance brings the risk of enforcement action, possible fines and real damage to your reputation as a business.

1.2 Save money

Good environmental performance includes reducing waste, minimising energy and water use and taking steps to reduce other environmental impacts that your business might have. This creates a leaner and more efficient business with lower costs.

1.3 Manage risk

Businesses which manage the risks to their success are often better prepared to deal efficiently with problems when they happen. Managing risks gives you peace of mind and maximises your chances of running a successful business.

1.4 Enhance your reputation

Legal compliance and implementing good practice will improve your reputation with customers and your neighbours. Your environmental credentials can help you win contracts; an increasingly relevant part of the tendering process for many sectors.

1.5 Why we need to protect our environment

Pollution occurs when substances released to water, land or to air have a harmful effect on our environment. It can affect our drinking water supplies, people's health, business activities, wildlife and habitats, and our enjoyment and use of the environment. You might not see it, but you can pollute it.

Pollution can happen accidentally or deliberately, and can come from a single place (point source) or from lots of different, possibly unknown and unconnected sources (diffuse sources).
Many different substances can cause pollution – common examples include:

- fuels and oils
- chemicals
- sewage
- farm manure
- slurry
- detergents
- milk
- fire-fighting run-off.

You should understand your premises and how your activities could affect the environment and cause pollution. Think about what pollution linkages you have.

Figure 1 Source, pathway, receptor

Your site and activities will only cause harm to the environment or people if you have all of these present: a source, a pathway and a receptor.

You should put in place measures to break the links or weaken the links between potential sources, the pathways and the final receptor.
By doing this, you can identify how to prevent or reduce the likelihood of pollution and reduce the impact of any problems which may occur.

Section 2: Drainage from your premises

2.1 Where does “dirty water” come from?

Where does “dirty water” come from?

Almost all premises produce dirty water which could cause pollution if it enters rivers, streams, ditches or groundwater.

Dirty water comes from:

- Kitchens
- Bathrooms
- Toilet and laundry facilities
- Vehicle washing
- Rainwater run-off from dirty areas of your premises
- Rainwater run-off: spills from storage and delivery areas
- Liquid wastes or trade effluents from your business activities.

Many premises also store liquid materials such as chemicals, fuels and oils, milk or fertilisers which can spill, leak or release their contents if there is a fire or flood.

To protect your environment from spills, leaks and other accidents it is very important that you make sure that you know where your drains are, and where they go.

2.2 Drains - why are they important?

Drains are common pathways for dirty water to enter the environment and cause pollution. This can happen through wrong connections, spills and leaks, fires and poor or inadequate maintenance.
Your site can have two types of drain: surface water drains, and drains that connect to the sewer.
You must not allow dirty water to enter surface water drains

To reduce the risk of pollution, you should know where your drains are, where they go and correct any problems you may find, such as wrongly-connected pipes.

If you make changes to your premises, such as building an extension or changing activities, you should understand your drainage systems so you can manage these changes safely, cost-effectively and without causing pollution.

If you want to discharge anything other than clean rainwater runoff from your site onto land, or into a watercourse you must contact your environmental regulator (NIEA, SEPA or NRW) and get permission. You will probably have to treat any dirty runoff before you can discharge it. Contact details are at the end of this document.
If you want to put dirty water into a sewer, you must contact your water and sewerage provider.

2.3 Where do your drains go?

All premises should have a drainage plan.

This will show where **surface water drains** are located and where they discharge to any nearby ditches, streams, rivers or other watercourses. This includes storm drains.
It will also show where **drains that connect to the sewer** are located. These can be sewers that remove dirty water only, or combined sewers, which take dirty water and runoff from some surface water drains to the sewage treatment plant.

This information should be available when you need it:

- when you plan activities on your site,
- when you to carry out inspection and maintenance of your drains
- when contractors or visitors need this information.

You can get help to work out where your drains are, and where they go, from:

- your sewerage provider
- your landlord
- a drainage consultant.

Produce a clear plan of your site, with all the drains identified, and include the direction of the drain, where it leaves your premises and where it goes. Include any nearby watercourses in your plan.

Colour code manhole covers and drains, **red for drains that lead to the sewer** and **blue for drains that lead to surface water.** This can prevent accidental contamination of the surface water drain.

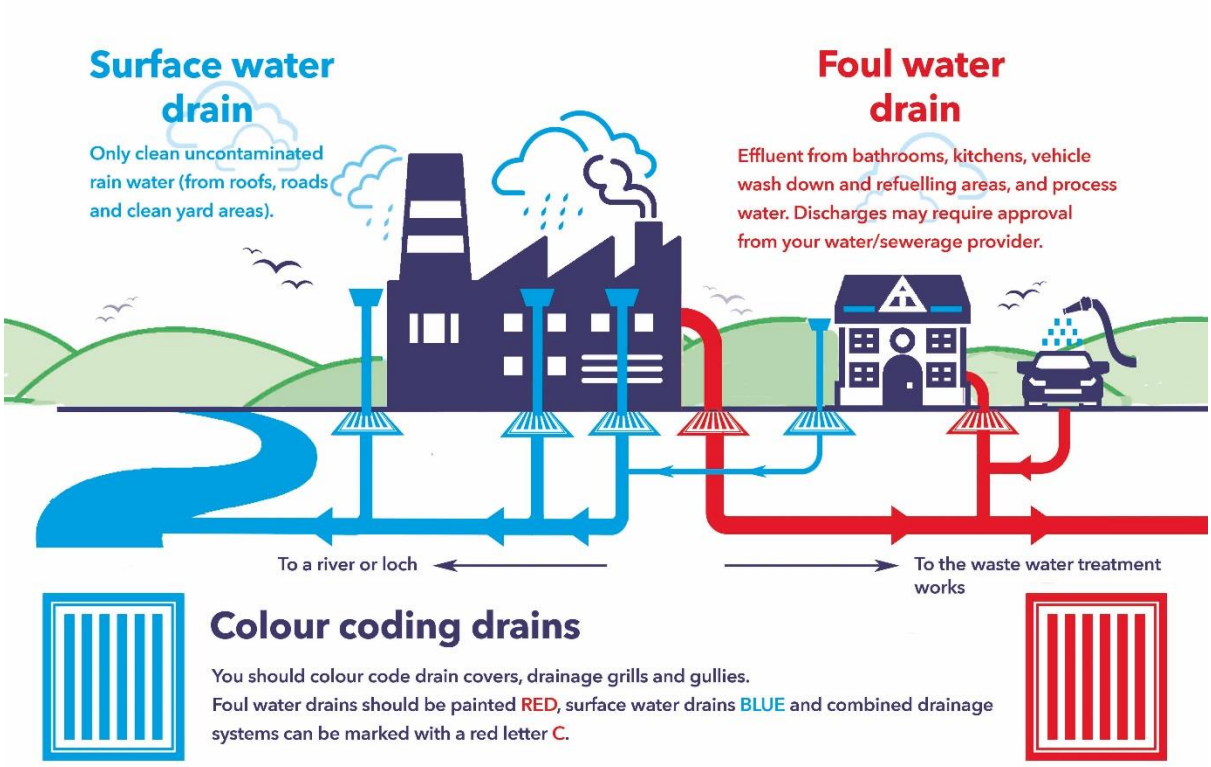

Figure 2: Surface water and foul water drainage.

2.4 On site treatment facilities

You might have treatment facilities on your site, such as septic tanks, package treatment plants or oil separators.
Make sure that these are maintained properly as they can be a source of pollution if they are not working correctly.
Manufacturers will provide information on how to maintain these facilities, you should make sure you have this information available so you can correct any problems, or if you need to change your site layout.

2.5 SuDS

You might also use Sustainable Drainage Systems (SuDS) to treat lightly contaminated water that runs off your site. Speak to your environmental regulator before installing SuDS. It is important to make sure the system is properly maintained.

SuDS can treat runoff where there is a possibility that runoff will collect light contamination, for example from car parks, and will trap and help break down these pollutants. SuDs will also reduce the risk of downstream flooding, and can add green space to built-up areas.

SuDS require a certain amount of land, and are not possible on every site. If you are designing new premises then consider SuDS from the outset. In Scotland all new developments (but not single dwellings) must include SuDS for the treatment and attenuation of surface water runoff.

If you wash or clean vehicles on site then make sure runoff from this activity does not go into surface water drains. Make sure that you have permission from your sewerage provider if you want to discharge this runoff to the foul sewer.

2.6 More information on drainage

- Connect right website - http://www.connectright.org.uk/
- NIEA: Proper use of Drains leaflet https://www.daera-ni.gov.uk/sites/default/files/publications/daera/20.21.037%20NIEA%20Proper%20use%20of%20Drains%20Leaflet%20final.PDF
- NIdirect: Connecting to the right drains https://www.nidirect.gov.uk/articles/connecting-your-home-right-drains

All GPPs can be found at: https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/

- GPP 13 Vehicle washing and cleaning.
- GPP 3 Use and design of oil separators in surface water systems
- GPP 4 Treatment and disposal of sewage where there is no mains drainage
- GPP 5: Works and maintenance in or near water.

- NetRegs SuDS https://www.netregs.org.uk/environmental-topics/water/sustainable-drainage-systems-suds/

Section 3: Safe storage of fuels, oil, chemicals and other materials.

You might store a number of different materials at your premises. Even materials that you think of as safe can cause serious damage to the environment.

Think of all the materials that arrive on your premises, including those delivered, collected, stored and handled by staff, and also by visitors or contractors.

Oils and chemicals are obvious sources of potential environmental harm, but other materials such as food and drink products and detergents can cause significant pollution. For example a spill of milk can cause more harm to a watercourse than the same volume of sewage.

Remember, you have already paid for these materials, and if you lose a quantity of them you are losing money. You will then also have clean-up costs. You also want to avoid any health and safety problems which could affect people on your premises or people nearby.

3.1 Plan your storage areas.

Make sure that you understand the risks associated with any materials you store on site. Suppliers will provide product information and highlight materials with particular risks associated with their storage or handling.
You must pay the same attention to the storage of waste, waste management companies can advise you about containers and storage areas.

Use your **drainage plan** to identify the safest places to store materials. Consider when and how you use these materials, and use this to plan your storage areas.

You should avoid storing materials:

- Near to open drains
- On bare ground; always use impermeable surfaces
- Anywhere near to watercourses, soakaways or other sensitive areas
- Anywhere there is a risk of flooding

Choose areas that are:

- Under cover – to prevent rainwater carrying pollutants away
- Bunded to prevent spills spreading
- In a safe place away from vehicles, to prevent collisions.

Leaks and spills can soak into unmade ground where there is a risk of pollution to groundwater. This can affect drinking water, and the clean-up can be a lengthy and expensive task.

Figure 3: Safe storage, bunded and under cover

3.2 Use suitable containers

Use containers that are suitable for the materials stored. Label them clearly and store them in a dedicated area.

Make sure your containers are in good condition by doing regular inspections. Any cracks or leaks can be dealt with before causing an incident.

Some materials must have specific storage, for example all kinds of oils and fuels. Certain materials must be kept away from other materials to prevent reactions or fire.

Keep your storage areas secure, to prevent accidental damage, theft or vandalism. You are responsible for clean-up costs even if the damage is caused by vandalism.

3.3 Contain leaks and spills.

You can't completely avoid spills and leaks, so put in place measures to reduce their likelihood and severity. You should be able to catch minor spills, leaks or overflows from your containers or stores, and be able to clean them up easily and safely.

Consider installing and maintaining secondary containment, such as a bund wall, or using bunded pallets. It's good practice for your secondary containment to be able to hold more than your tank or container is able to hold, commonly called 110% containment. In some cases this is a legal requirement, such as when storing oils. Secondary containment gives you time to either correct or minimise the problem and to get help.

Figure 4: Bunded storage drums and containers

You should inspect and maintain your secondary containment so it's still effective, such as sealing any cracks or holes, making sure any walls or floors are rendered impermeable, and safely removing any rainwater from the secondary containment. If you store fuels or other liquids in underground storage tanks (USTs) you must take care when installing these tanks, or when decommissioning or removing them. If not carried out properly, these activities can result in serious pollution of soil, groundwater and nearby water courses. See the references at the end of this section.

You and others on your premises should know where to find your spill kits, understand how to use them properly and understand how to store and use materials safely. Label your spill kits and check their contents regularly.

If you have a spill or any pollution incident, report it to us immediately on **0800 807060 (24 hours, 7 days a week)** – your environmental regulator can advise you on what to do, and can help to inform any other agencies that might be required.

3.4 Deliveries

Delivery and handling of materials can be risky, and delivery areas should be managed to prevent incidents.
Have procedures in place for safe deliveries, and make sure all your suppliers understand them. Supervise deliveries to make sure that procedures are followed.

Keep spill kits or appropriate clean-up equipment close to where deliveries are made, and make sure staff and suppliers understand how to use them.

Minimise the handling and movement of materials around your site by planning where deliveries take place. This reduces the risk of spills, and also saves time and money.

3.5 More information on storage of materials

All GPPs can be found at: https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/

GPP 2 Above ground oil storage tanks.
GPP 8 Safe storage of used oils
GPP 13 Vehicle washing and cleaning
GPP 22 Dealing with spills
GPP 21 Pollution Incident Response Planning
GPP 26 Drums and intermediate bulk containers

For underground storage tanks see:

PPG27 Installation, decommissioning and disposal of underground storage tanks.
https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/
The Association for Petroleum and Explosives Administration (APEA) The Blue Book
https://apea.org.uk/pages/publications/apea-publications

Section 4: Waste: handling, storage and minimisation

4.1 Minimising your waste.

Everything you buy and use on your premises might end up as waste, from food to packaging to off-cuts. Do you know what wastes are you generating at each stage of your activities?

Poorly managed wastes can pollute the environment, for example through illegal dumping or leaking into the ground or watercourses.

You have a responsibility – called **the duty of care** - to ensure you produce, store, transport and dispose of waste without harming the environment. This includes waste you produce directly and indirectly, such as waste produced by a contractor doing work on your behalf.

Wastes which are most hazardous to the environment or human health, such as solvents, asbestos and oils must be managed differently from other wastes. You have a legal duty to understand what types of waste you produce and how you need to manage them.

Use the **waste hierarchy**

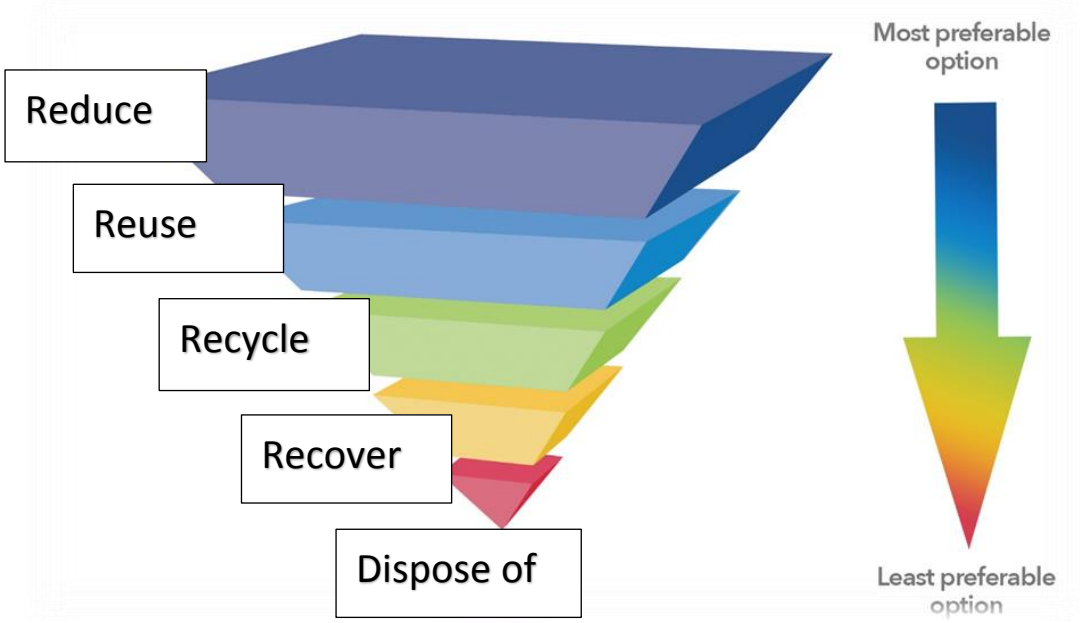

Figure 5: The waste hierarchy

Reduce:
There are a number of ways to reduce the amount of waste you produce. This ranges from simple measures such as purchasing goods with less packaging or buying in bulk, not in individual packs, to entirely redesigning your products and processes to eliminate waste.

Reuse
Identify goods or materials that can be reused, perhaps with minimal cleaning and preparation. Design for re-use, e.g. your packaging.

Recycle
Items that can't be re-used can often have the materials they are composed of recycled. Items made of a single material are easier, however you may be able to find a cheap way of removing recyclable parts from more complex items.

Recover
Rather than dispose of materials to landfill, it is sometimes possible to recover some value from them, even if this is just heat from burning them. Energy from waste plants convert the waste into heat and power.

Dispose of.
The least desirable destination for waste. A last resort if all other options have been tried and have not been feasible.

4.2 Storage and handling

Store waste in secure containers. If they contain liquids, make sure they don't leak. Where appropriate keep waste in containers with lids. This will prevent the wind blowing waste around your site, and will keep the waste dry. Rain water could pick up pollutants from the waste and this contaminated water would need to be managed as a waste too. Also, for example, wet cardboard weighs more than dry, and if soaked you could end up paying extra to have this material removed from your site.

4.3 Segregate your wastes

In Scotland and Northern Ireland all businesses must segregate dry recyclable materials. Paper, cardboard, glass, metals and plastic must be segregated to allow for high quality recycling. Speak to your waste company to find out how they need these materials to be presented for collection.
Clearly label the containers for different materials, and make your staff aware so the right materials go into the right containers.
Identify all the waste materials you produce, then identify those that can be reused or recycled.

4.4 Hazardous/special waste

Some types of waste, called 'hazardous wastes', or, in Scotland, 'special wastes', are very harmful to human health or to the environment. You must store, handle and dispose of these differently to non-hazardous wastes.

You must not mix different types of hazardous/special wastes together.
Also, if you mix hazardous wastes with non-hazardous wastes then you must consider it all as hazardous/special waste.

Consider the security of your premises too - any waste dumped on your property becomes your responsibility to remove, and it will cost you money.

4.5 Waste Disposal

You must only use a registered waste carrier to take your waste away. Check your environmental regulators website to find a list of all registered waste carriers.

Ask where they will take your waste, and check that waste site is authorised to accept your type of waste. Not all waste management sites can accept all types of waste.

You can transport your own business waste to a site for recovery or disposal, but you will need to register with your environmental regulator. In Scotland you can register as a "Professional Collector or Transporter of Waste", in Northern Ireland and Wales as a "Lower Tier Waste Carrier". This applies to waste you produce yourself, but not to waste produced by other businesses, or to construction and demolition waste.

If waste is removed from your site you must complete a Waste Transfer Note, and keep your copy for 2 years. If the waste removed from your site is hazardous/special waste then you must complete a Consignment Note and keep your copy for at least 3 years.

4.6 More information on waste management

Check if a waste carrier is licensed:

Northern Ireland: Registered waste carriers/transporters https://www.daera-ni.gov.uk/articles/registered-waste-carriers-transporters
Scotland: Registered waste carriers and brokers
https://www2.sepa.org.uk/wastecarriers/
Wales: Check for a permit, licence or exemption
https://naturalresources.wales/permits-and-permissions/check-for-a-permit-licence-or-exemption/?lang=en

Register to carry your own business waste

Northern Ireland: Lower tier carrier https://www.daera-ni.gov.uk/publications/application-register-lower-tier-carrier-controlled-waste
Scotland: Professional carrier or transporter of waste
https://online.sepa.org.uk/apex/f?p=217:HOME:
Wales: Lower tier carrier https://naturalresources.wales/permits-and-permissions/waste-permitting/register-as-a-waste-carrier-broker-or-dealer/?lang=en

Transfer Notes:

NetRegs: How to complete a waste Transfer Note
https://www.netregs.org.uk/environmental-topics/waste/duty-of-care-your-waste-responsibilities/waste-transfer-notes-and-how-to-complete-them/
NRW: Completing waste transfer notes https://naturalresources.wales/guidance-and-advice/environmental-topics/waste-management/completing-waste-transfer-notes/?lang=en

NetRegs e-learning – How to complete a Waste Transfer Note, Consigning Hazardous/special waste, How to get the right EWC code
https://www.enetlearn.com/netregs?gl=475c726f-2dfb-4358-8d88-4b744169f509&r=1

Waste Minimisation:

WRAP: Waste reduction: https://www.wrap.org.uk/category/subject/waste-reduction

Zero Waste Scotland: Save money on waste: Implementation guide
https://www.zerowastescotland.org.uk/reduce-waste/how-to

Section 5: Dealing with pollution incidents

5.1 Preparation

Take time to consider all areas of your premises or site. Think about where things could go wrong and why. Consider fire, flooding, accidents, vandalism, leaks and spills and how materials and waste are moved around your premises.

Dealing with incidents mean significant disruption to your activities. The better prepared you are the less downtime you will experience. Preparing and incident response plan can save time and effort and will reduce the cost of dealing with an incident.
Remember, you are responsible for any contractors working on your behalf, so you must make sure you give them clear work instructions and supervise them appropriately

5.2 Planning and training

The best way for you to cope when problems and emergencies arise is to plan. Well managed premises are less likely to have problems in the first place.
You should create and implement an **incident response plan**. You may even have a legal responsibility to make a plan. It should include procedures to deal with problems and emergencies and importantly include a copy of your drainage plan.

5.3 Implement plans

Make sure everyone on your premises understands what to do in case of an emergency. Include advice to visitors and contractors. Keep a copy of your plan offsite, so you can always access it. Regularly train staff, and review your plans on a regular basis to make sure they are fit for purpose. Make sure the plan is updated if there are changes to you premises, or you change the materials or processes you carry out.

5.4 Flooding

You can check whether you are at risk from flooding on the flood maps available from your environmental regulator. You will also be able to sign up for free flood warnings direct to your phone.

5.5 Fire

Contact your local Fire and Rescue Service and ask them to visit and give you advice of fire safety and fire prevention. They can help you draw up a fire response plan for your premises.

5.6 Spill kits and pollution control equipment

Keep spill kits close to areas where there is a risk of spills, for example near to oil storage areas. Make sure these are maintained and restocked after any incident. Train staff in when and how to use them.
Have pollution control equipment that is appropriate to your site, your activities, and the risks they pose.

Figure 6: A spill kit

5.7 If you have an incident

If you have a pollution incident:
Use the pollution hotline 0800 807060. (24 hours a day, 7 days a week).

Your environmental regulator can offer advice on what to do and can inform any other agencies that may be required.

5.8 More information on dealing with pollution incidents

All GPPs can be found at: https://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/

GPP 21 Pollution Incident Response Plans
GPP 22 Dealing with spills

Flood maps and guidance

Northern Ireland: Flood Maps NI https://www.infrastructure-ni.gov.uk/topics/rivers-and-flooding/flood-maps-ni
Scotland: Flood Maps Scotland
https://www.sepa.org.uk/environment/water/flooding/flood-maps/
Wales: Flood Maps Wales https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en

Fire and Rescue contact information

Northern Ireland Fire and Rescue Service: Business safety advice
https://www.nifrs.org/business-safety-advice/
Scottish Fire and Rescue: For Business https://www.firescotland.gov.uk/your-safety/for-businesses.aspx
Wales:
North Wales Fire and Rescue: At your Business https://www.nwales-fireservice.org.uk/keeping-you-safe/at-your-business/
Mid Wales Fire and Rescue: Business fire safety
https://www.mawwfire.gov.uk/eng/your-safety/
South Wales Fire and Rescue: In Business https://www.southwales-fire.gov.uk/your-safety-wellbeing/in-business/

The pollution hotline: 0800 807060

Section 6: Managing and reducing your environmental impacts.

Businesses can have an impact on the environment in a number of ways. Following the guidance in this GPP can help you to reduce or eliminate the negative impacts that you might have.
A way of ensuring that you are always aware of impacts and can take action to minimise them is to develop a suitable Environmental Management System (EMS) for your business.

6.1 What is an EMS?

An environmental management system (EMS) is similar to other management systems, such as those that manage quality or safety. It assesses your business' strengths and weaknesses and helps you identify and manage environmental risks and opportunities.
It can also save you money by increasing efficiency, it ensures you comply with environmental legislation and provides a framework for continual improvement.

Adopting an EMS does not mean that everyone in your company has to stop driving or you have to set ambitious targets for energy reduction. It is about understanding how your organisation impacts on the environment and those living or working nearby. Both can be affected by your activities, such as by noise, emissions or waste production.

An EMS also helps you to identify how environmental issues may in turn affect your business e.g. availability of resources or flood risk.

An EMS then enables a systematic approach to manage these aspects in order to reduce environmental risk. This will help you plan for the future. You can then set realistic objectives each year for improving your organisation's environmental performance and sustainability.

6.2 Different types of EMS

You should consider adopting an EMS that is at an appropriate level for your business. This could be:

- In House – develop your own system that works for your business based on your own priorities
- Use international standards – create your EMS following best practice. Following the standards outlined in BS 8555 or ISO 14001 to ensure that all aspects of your business impacts are covered. You then have the choice of going for certification
- Certification – Increase the credibility of your EMS by having your system certified. This helps to show others that you are on a path of continuous improvement and shows all levels of your organisation are involved.

Certification is a step that requires time and commitment, and is not appropriate for all organisations, particularly smaller businesses.
Whatever type of EMS you choose to develop, it will help you to organise your actions to reduce environmental impacts, and often realise cost savings through greater resource efficiency.

6.3 More Information on environmental management systems

NIBUSINESSINFO: Set up and environmental management system (EMS)
https://www.nibusinessinfo.co.uk/content/set-environmental-management-system-ems

Netregs: Environmental Management Systems
https://www.netregs.org.uk/environmental-topics/environmental-management/environmental-management-systems-ems-and-environmental-reports/introduction-what-is-an-ems/

Wrap: Your Guide to Environmental Management Systems
www.wrap.org.uk › wrap › WRAP EMS guide June 2013

NetRegs Management toolkit for SME's Northern Ireland
https://www.netregs.org.uk/environmental-topics/environmental-management/management-toolkit-for-smes-northern-ireland/

NetRegs Management toolkit for SMEs Scotland
https://www.netregs.org.uk/environmental-topics/environmental-management/management-toolkit-for-smes-scotland/

Natural Resources Wales: Environmental Management Systems toolkits
https://naturalresources.wales/permits-and-permissions/environmental-permits/environment-management-system/?lang=en

Contact details

UK wide Incident/Pollution hotline: 0800 80 70 60 (24 hrs)

Floodline - England, Wales and Scotland: 0845 988 1188

Flooding incident line (NI): 0300 2000 100

Natural Resources Wales

www.naturalresourceswales.gov.uk

HEAD OFFICE (Ty Cambria)

29 Newport Road,

Cardiff

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Tel: 0300 065 3000 (Mon-Fri, 9am-5pm)

enquiries@naturalresourceswales.gov.uk

Scottish Environment Protection Agency

www.sepa.org.uk

Strathallan House

The Castle Business Park

Stirling

FK9 4TZ

Tel: 03000 99 66 99

http://www.sepa.org.uk/contact/

Northern Ireland Environment Agency

https://www.daera-ni.gov.uk/northern-ireland-environment-agency

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