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This guide has been adapted from a concept originated and developed by the West Midlands Climate Chang Adaptation Partnership, and subsequently updated and adapted by Sustainability West Midlands, Climate East Midlands, Environment Agency Midlands and Warrington Local Authorities.

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# How to use this guide

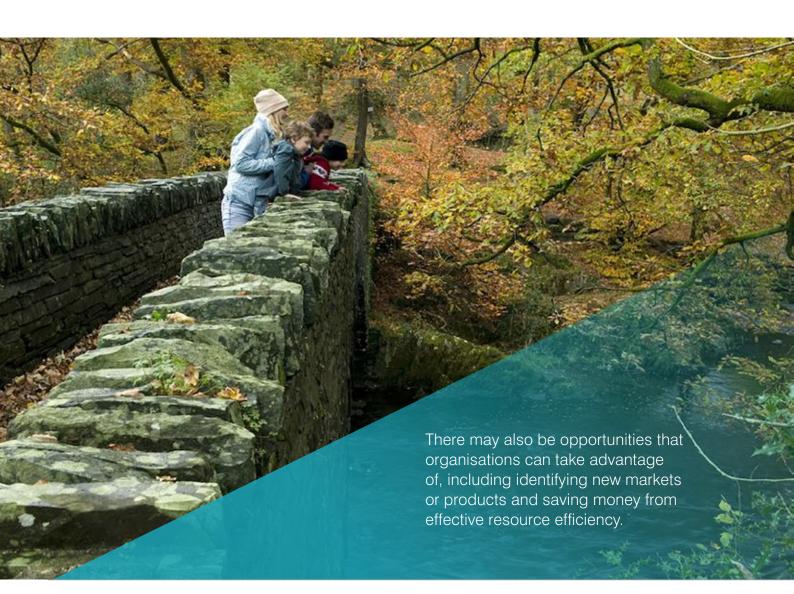
This guide has been produced for small and medium businesses (SMEs) in Cumbria. It will help you to understand how you could be affected by severe weather and how you can improve your chances of a quick recovery. The guide also sets out business opportunities from responding to a changing climate, and provides useful tools and contact information.

## To get the most out of this guide:

- Read the introductory sections on why climate change is relevant now, what the key impacts can be and what is in it for your business.
- Read the section on how to prepare for extreme weather events. This is split into topics such as insurance, your premises and your people. For each topic, the guide asks a series of questions to help you think about how you might be affected and identifies a series of simple and low-cost actions you could take.
- Do you need more advice? Refer to the tools and contacts section.

The information in this guide has been focused on actions that are relatively easy for small businesses to achieve, tackling issues that are within your control or influence. You might not be able to stop flooding or an extreme storm event affecting your business, but you can take a few simple steps to reduce the impact these might have on your business so that you can remain operating. The list of suggested actions is not exhaustive and ticking all the boxes does not guarantee you are resilient. You must consider your specific circumstances.

There may also be opportunities that organisations can take advantage of, including identifying new markets or products and saving money from effective resource efficiency. Further suggestions on how to identify these are presented later in this guide.



# What do I need to know?

# What are the effects of a changing climate likely to be?

## More frequent and severe flooding

The majority of flooding is caused by heavy rainfall which can lead to rivers overtopping their banks or drainage systems being unable to cope with the volume of water. In the North West the estimated increase in average winter rainfall is 4% by the 2020s and 16% by 2080.

2012 saw the wettest summer on record, and winter 2015 has been the wettest winter. These times have had great economic impact through flooding, impacts on tourism, events and agriculture.

Storm Desmond, in December 2015, brought exceptional rainfall to Cumbria. A new 24-hour UK rainfall record was set at Honister and a new 48 hour record at Thirlmere. The damage to homes, businesses and livelihoods was immense.

Do you know if your business (or key employees' homes) are in a flood risk area? If so, would your business survive a serious flood? How would electric and computer systems, stock and machinery be affected? How long would it take to recover?

#### Hotter summers and milder winters

In 2003 and 2006 we had extreme summer temperatures in the North West. The heatwave in 2003 killed about 2,000 people in the UK and the frequency of hotter summers is expected to increase. Increasing temperatures have also softened road surfaces and disrupted travel connections.

In the North West, it is estimated that the average summer temperature may increase by 1.5°C by the 2020s and 6°C by the 2080s.

Increased temperatures could affect agriculture, changing the growing season and the types of crops that can be grown. It may also change the nature of pests and diseases.

Winter 2015/16 was the warmest UK winter on record. Milder winters may bring some benefits, but cold spells and storms will still occur.

## Drought

A 5% reduction in summer rainfall is estimated by the 2020s and 21% reduction by 2080 which, combined with increased temperatures, could result in more droughts in the North West. Water shortages, particularly in the summer, could become more frequent.

To what extent does your business depend on water? Are there ways that you could use water more efficiently and save money?

## Storms and wind

Storm events can cause severe short term impacts including disruption to services. As well as directly damaging buildings, storms and high winds can shut down major transport links.

You can find out more about how our climate is forecast to change and how we could be affected at: www.climateandus.com

- Warmer, wetter winters
- Hotter, drier summers
- More storms and extreme weather

Note: The above estimates of how the climate is likely to change are taken from the UK Climate Projections 2009 (UKCP09). The projections are based on emissions scenarios, and show a range of possible outcomes and the probability of each outcome. The figures quoted above are the central estimates based on the high emissions scenario. For more information on UKCP09 see ukclimateprojections.metoffice.gov.uk/21678.

# CASE STUDY: Storm Desmond – Key Costs to Businesses



On the 5th of December 2015 Storm Desmond hit Cumbria, setting new UK records for rainfall and causing previous unseen levels of damage to homes and businesses. Cumbria County Council records show that as a result of the Storm across Cumbria:

# At least 1,029 businesses were flooded

- 18,132 properties were without power in the immediate aftermath
- Tragically, one man lost his life in Kendal
- One care home flooded and was evacuated
- The average cost of impact per affected business was expected to be



# The impact was personal for many business owners and staff:

- Many businesses were affected both at their trading premises, and at the homes of owners and staff as over 7000 properties flooded across Cumbria
- 60 schools were affected 4 closed long term, and 17 nurseries were affected



## Infrastructure was also badly affected:

- Some key road bridges were washed away and many more closed for checks
- Closure of the A591 for 5 months cut off a key link between north and south lakes
- Detours of up to 90 miles were necessary as roads and bridges were damaged or closed for safety-checks
- The West Coast main line and the Carlisle Newcastle railway line closed until the end of January 2016

A large survey carried out in the weeks following the storm found that fewer than 1/3 (27%) of businesses that had suffered financial losses expected to recover all costs from insurance, and four months after the floods, 12% of affected businesses were still only trading at limited capacity.

Despite episodes of severe flooding in 2005/6 and 2009 most businesses were unprepared for the scale of rainfall and disruption of infrastructure. Businesses that had got back to full trading quickly cited the following as their main reason:

- quick action to protect property and stock (51%);
- support from local community (22%)
- previous flood resilience measures (18%)

# How are the weather and climate relevant to my business?

A review of weather across the North West over the last ten years shows that we have already experienced extreme weather. Some of these events have had devastating impacts on people's ability to go about their daily activities.

The majority of recent recorded weather events that have had an impact in and around Cumbria have been a result of **heavy rain**, and we may see more of these events, and a wider variety of impacts, as our climate changes.

- The North West has over 150,000 properties at risk of flooding from rivers and the sea and has the second highest amount of potentially uninsurable properties of all the English regions.
- The Association of British Insurers calculates the overall economic damage for the nation from the December floods at £1.3 billion. Surveys carried out in Cumbria have shown that the average cost to businesses affected by flooding in December 2015 was over £35,000.
- An ABI\* study revealed that 80% of businesses which do not have an emergency plan in place do not recover from a major incident such as a flood, even where insurance is in place to cover financial losses.
- AXA\* research indicates that the average length of business interruption by flooding has increased from 8 months in 1996 to 14 months in 2005 as businesses become more complex and flooding more frequent.
- According to Farming Futures' Climate Change Survey 2011, 43% of respondents saw "unpredictable weather" as the climate change risk most likely to affect their business. 50% of respondents thought climate change would present risks and opportunities in equal measure.

Snow and storms also have severe local impacts:

- The heavy snow in 2013 closed dozens of schools across Cumbria. Businesses also suffered when staff who are parents couldn't then come in to work.
- Businesses have also been badly affected by winter weather in recent years, with staff unable to travel in to work and, particularly in the retail sector, customers staying at home.

**Heatwaves** in summer have also caused disruption, and significant changes in customer behaviour.

Preparing for a changing climate makes good business sense. Experience in Cumbria has shown that extreme weather could have some serious consequences for your business operations: not just for your premises and staff, but also by disrupting your suppliers, distribution or customers.

Cumbria has some key transport links that are particularly vulnerable to weather impacts, such as the motorway, west-coast trainline, and high mountain road passes.

Supply chain disruption from extreme weather events is a significant business risk for many sectors in Cumbria. The ability of many businesses to operate in the tourism, farming, retail and manufacturing sectors is wholly, or in part, dependent upon access to material resources and their ability to supply their product to their customer base.

However economists have estimated that, across Europe, every £1 spent on increasing resilience now could yield £4 in damages avoided.



# What can I do to prepare?

# So, what's in it for my business?

Like any other issue facing your business, it is important to understand how extreme weather and climate change impacts could affect you. Planning ahead rather than responding reactively will help you to:

- save your business money in the long term;
- give your business the best chance to continue to operate and meet customer orders, in spite of the weather; and
- identify possible business opportunities e.g. new products or services, reduced costs etc.

"Increasing resilience now can pay-off many times over in the future."

# What can I do to prepare?

Understanding how your business will be affected by weather and climate change impacts is a crucial first step, but what should you do next? The following pages cover some common issues, questions to ask yourself and where to go for more information.

A number of these issues are common to all SMEs, regardless of your business sector. However, agriculture in Cumbria may face different challenges to urban businesses and therefore we have provided a separate section on this.

We have focused on actions that are relatively easy for a small business to achieve, tackling issues that are within your control or influence. Whilst some of the actions will have an initial cost they should save you money in the long term.



# Insurance

## Ask yourself:

- When did you last check that you have the insurance you need?
- Are you covered for floods and storm events?
- Do you have business continuity cover if your business is interrupted?
- Does your insurance policy replace new for old or have limits for repairs?

## Take action:

- Check your insurance cover at least annually. Confirm that you have a policy that covers the full value of your business and keep documents safe from weather impacts (and store copies off site).
- · Check that buildings and content insurance covers flooding and storms.
- · Check if you have business continuity insurance that will cover you while you cannot do business.
- Catalogue your assets (could include photographs or video).
- Make sure that the period of time that you are insured for is adequate. In the case of a major flood, for example, there can be long delays while property dries out and affected customers return to do business with you.

"Uninsurable? -There may be solutions."

## Are you uninsured?

- Is insurance for flooding and storm events unavailable, or unaffordable, for your business premises?
- If insurance is not available, or affordable, speak to your insurer and ask if they would reconsider insurance if you increased the resilience of the building.
- See the case study on page 12 for the story of a B&B at Eamont Bridge that became impossible to insure for flooding, but can now be insured at a reasonable price, after the owners made changes to the building.

## Further information:

- · Check with your own insurance broker for more information, or contact the Association of British Insurers (ABI) at www.abi.org.uk or 020 7600 3333, or the Federation of Small Businesses (FSB) on 0808 2020 888.
- The link below provides information on the types of insurance SMEs may need, including property, employees and financial risk (Insurance for Small Businesses: A Guide To Protecting Your Business): www.abi.org.uk/Information/Business/40507.pdf
- · There are other types of insurance you can consider such as: engineering insurance to repair/re-instate machinery and computers; goods-in-transit insurance to cover goods while they are being moved; frozen food insurance which covers you if there is a failure of the public electricity supply; others such as glass insurance, cancelled event insurance etc.

Don't forget to take into account the length of time an insurance payment could take and potential cash flow problems. A loss adjuster may need to visit.



# **Premises**

# Ask yourself:

- · Do you know if you are in an area at risk from flooding or flash flooding? Remember that climate change means that risks will change.
- If you are currently located in a flood risk area, do you have appropriate flood resistance and resilience measures (for example, sandbags or metal barriers)?
- If you are moving premises, check whether the location is within a flood risk area.
- Are you about to sign a long-term lease agreement which would make it difficult to relocate? If you are, have you checked if you can afford the relevant insurances, including business continuity insurance?
- Do you have the equipment to clean up after an extreme weather event? Are you able to purchase this now?
- If your premises are damaged by extreme weather, think about re-instating it at a higher standard of resilience to prevent the same damage happening again. "Resilience Grants" may be available. Ask your local council for information. Contact details are on the back of this guide.
- Have you considered whether you could operate from alternative premises if you had to?
- Are there mutual weather warning systems that you could share with neighbouring businesses? Can you share alternative suppliers, accommodation, etc.?
- · How well do your buildings and building services cope with high temperatures?
- Could increased chances of subsidence affect your business?
- Prolonged clean-up operations arising from stormwater contaminated with sewage is a particular problem for restaurants, takeaways, doctors etc.

## Take action:

- Before you sign a lease, make sure you are comfortable with the lease conditions. If you are in a flood risk area, consider the length of the agreement and potential implications.
- When upgrading your premises, for whatever reason, consider ways to make your property more resilient to severe weather. You could, for example, consider relocating to a lower risk area (higher ground, not on a flood plain etc.).

## Further information

- Is your business at risk of flooding? Find out now call the Environment Agency Floodline on 0845 988 1188 or visit www.goo.gl/S3hLB
- The Environment Agency publication "Would your business stay afloat? A guide to preparing your business for flooding" contains a simple template to use to create a flood plan for your company: www.gov.uk/government/publications/preparing-yourbusiness-for-flooding
- The Met Office provides weather forecasts - 01392 885680 and www.metoffice.gov.uk
- · More information is available on the repair and restoration of buildings following extreme weather at CIRIA's (Construction Industry Research and Information Association) website: www.ciria.org/flooding

Do not assume that because the Environment Agency does not identify your area to be at risk of flood that you are not. You may still be at risk from flash flooding, surface water or groundwater flooding.



## Other practical measures you can take include:

- Move electrical sockets to above the flood level and separate electrical circuits.
- Lay ceramic tiles on the floor and use rugs instead of fitted carpets.
- · Use lime plaster instead of gypsum.
- · Fit stainless steel or plastic kitchens instead of chipboard.
- Position main parts of a heating or ventilation system upstairs, above the ground floor.
- Consider replacing vulnerable wooden window frames and doors with synthetic ones, but seek advice for listed buildings or conservation areas.
- Fix floodboards to window and door frames.
- If you are in a high flood risk area, fit one-way valves to drains and toilets.
- You may be able to sign up to the Environment Agency's free 24-hour Floodline Warnings Direct Service. Warnings can be sent by phone, text, email, fax or pager. The more warning you have, the more time you have to prepare and protect your business. 0845 988 1188 (Floodline).
  - fwd.environment-agency.gov.uk
- Plastic covers can stop flood water coming through air bricks.
- Equipment such as pumps, driers and dehumidifiers will aid the clean-up after a flood. If you have these prior to a flood it will save you time. Consider sharing the cost of equipment (e.g. a water pump) with your neighbours.
- Sandbags and pre-prepared plywood or metal barriers can reduce flooding around doors. Using a blanket or silicone sealant around the barrier can also help. If sandbags are in short supply you can buy your own sand and bags or use pillowcases/ plastic bags. However, note that a flood may contaminate these items with sewage so they should not be reused. Alternatively, demountable flood defences are also available.
- · Check buildings maintenance, gutters, drains and culverts.

# Other practical measures you can take include:









Images Courtesy of Adler and Allan. For more ideas about changes you can make to your property visit www.floodresilienceadvice.com

# What can I do to prepare?

# Making traditional buildings more resilient to flooding

Much of Cumbria's building stock was built before the 1920s and is made of traditional materials like stone, brick, timber and clay, These materials can absorb moisture and then allow it to evaporate away - allowing the building to "breath".

If you have a traditionally built property there are special considerations you need to make when choosing the building material and method for refitting after flooding,

or just while doing home improvements. Getting it right can make a big difference to getting your building back into use if you are flooded in the future.

Controlling damp and ventilation is very important. Sometimes builders and insurers might suggest using modern solutions for waterproofing walls, but these can harm old buildings, because they stop them from breathing like they should.



## Allows water to evaporate 🗸

Traps water and damp inside 💥

Lime plaster Lime mortar Stone

**Gypsum plaster Cement render Cement pointing** 

There is a full guide of information on how to help make traditional Cumbrian buildings more resilient and sustainable at:



# Case study

# Major Changes at the Riverside

Rivergarth Bed and Breakfast, Eamont Bridge



Irene and Brian Nixon's B&B stands on the banks of the River Eamont, just south of Penrith. It was flooded badly in 2006 and 2009, leaving them with tens of thousands of pound of damage, forcing their closure to guests for months, and making flood insurance unaffordable.

The Nixons decided to take bold steps to protect their home and livelihood into the future, and after the 2009 floods (for which they were insured) they raised the walls and roof of the bungalow by 7ft. They lifted up the ground floor level, creating a basement that flood water can flow in and out of. The basement is used for parking a car, and houses their laundry machines, raised 3ft off the ground, with wiring and sockets descending from the floor above.

When the 2015 floods hit they moved their car out of the garage to higher ground, and watched as the river rose.

The river hit record levels, and their basement flooded higher than expected, leading to the loss of the laundry and some other equipment – however the upper floors were unaffected and they were able to continue taking in guests. Unfortunately the loss of Eamont Bridge required long detours and so trade suffered until the reopening of the bridge at Easter.

The basement did take months to clean and dry out, so the Nixons are thinking about how to improve the flooring surface for the inevitable "next time". However their home and business is now insurable for flooding once again and they are very pleased they made the change and can continue to live and work in their riverside home.



# Case study

# Water-resilient Changes Paid-off

Cockermouth Toy Shop

Jonty and Fiona Chippendale own the Cockermouth Toy Shop, which was badly flooded in 2009. At that time they had to trade from elsewhere for 6 months before the building was ready to re-open. However when the shop was refitted they made some key changes, in order to recover more quickly if flooding happened again.

A solid floor was put in, in place of the suspended one, and the electrical ring-main was moved up to run around the edge of the ceiling. The electric sockets were also moved higher up the wall, out of the way of water. Jonty and Fiona covered the walls in waterproof cement and re-laid their wall fittings horizontally, instead of vertically, so that only the lower levels would need replacing in future.



These changes were tested by the flooding in December 2015, and worked well - with trade able to continue from the building within 24 hours, while they replaced the floor tiles and stock lost from the lower levels. Jonty feels it is very important to stay open at times like this "our customer base is harder to replace than stock".

To improve things further for the future a few more recent changes have been made. A generator has been purchased in case power is lost from the grid. The solid floor has now been covered in waterproof interlocking tiles, flood gates have been fitted to the building, and a sump and pump installed on the ground floor.

Jonty explains that they don't expect to ever stop the ingress is lower than the speed at which we can get



# Case study

# Re-fitting for Resilience

Coniston Boating Centre

Coniston Boating Centre has been flooded a number of times over the years, including in December 2015, and various changes have been made to help the business recover more quickly.

After the 2009 floods the electric sockets were moved up the wall, above the 2015 flooding level. Tool cupboards are placed high up on the walls, and hand tools are routinely stored in liftable boxes, so they can easily be moved to safety as the water rises.



Previously, wooden workbenches had become warped and had to be thrown away after flooding – so in 2009 the Boating Centre purchased steel leg work benches and kitchen fittings that could be washed down and retained after future floods.

These changes helped the Boating Centre recover more quickly from the 2015 flooding, though they still face the challenge of how to quickly move over 100 boats to higher land, to minimise the damage to those in future.

# **Utilities**

# Ask yourself:

- If your pipes freeze, are they vulnerable to bursting?
- · What would you do if your business was cut off from the mains power supply?
- · Do you know how to turn off the gas, electricity and water supplies to your business?
- Does your business depend on water? If there was a drought and a resulting hosepipe ban or other restrictions, would you be able to continue to do business? Water companies have a legal duty to supply households, but not businesses.
- How will your business be disrupted if your phones
- Is your business dependent on fuel deliveries?

## Take action:

- · Talk to your plumber on ways to avoid burst pipes or reduce the damage.
- If electricity is critical to your business consider back-up generators or battery storage.
- Talk to your suppliers to find out how to turn off the water, gas and electricity to your business. By turning them off before a flood or storm, you may reduce the amount of damage.
- · Consider alternative water supplies, such as installing water tanks to store rainwater. This can also save you money and help reduce your carbon footprint.

## Further information:

- · United Utilities website for water and wastewater in the North West of England: www.unitedutilities.com
- Electricity North West owns, operates and maintains the North West's electricity distribution network, connecting 2.4 million properties, and more than 5 million people in the region to the National Grid: www.enwl.co.uk

# Information technology and security of data

# Ask yourself:

- · Flooding, storms or power surges could damage computers and electronic files could be lost. Do you have a back-up and is it saved in a safe, separate location?
- If your computers were unavailable, what processes would be affected (e.g. orders, payroll, contacts etc.) and would your business still function?
- What alternative arrangements do you have to access vital data?
- If your staff are unable to get to work, because homes or working premises are affected by snow, floods or storm damage, can you continue to do business? Can they work from home, with access to IT?
- Is your server room vulnerable to extreme temperatures? Do you rely on air conditioning to keep cool, which can be vulnerable to power cuts?
- · Can you cope with lost orders and enquiries?

## Take action:

- · Regularly back-up your computer files to disk or other saving device and store this in a safe place, separate from your computer's hard drive, ideally in a separate
- · Check if your employees have broadband and other equipment at home to enable them to work from home if necessary.
- · Consider getting a server with remote access so that key staff can access your computer files from any computer.
- Review the location of your key IT equipment to identify whether it is at risk from increased temperatures and/or flooding.

## Further information:

• Seek advice from your hardware and software provider on how to back up your files, how to access your computer systems if they are damaged at your premises and how to access your computer files remotely.

"If office temperatures reach 32°C, productivity decreases by 29%."

(Source: Climate Change and the Effects on Small Businesses in the UK, AXA, 2006)

# People

# Take action:

- Find out which of your staff have homes or travel routes that are likely to be affected by weather, or have children whose schools may be likely to close. Think about what procedures you can put in place to handle this, such as staff working from home if necessary.
- Identify individuals with medical conditions and increase awareness of the impact of extreme temperatures amongst staff.
- Ensure that you have identified your legal obligations and understand your liabilities with respect to working conditions in the workplace. The Health and Safetly Executive has information on thermal comfort at: www.hse.gov.uk/temperature/index.htm.

## In very high temperatures:

- If the task allows, encourage workers to wear suitable summertime and comfortable clothing to work to minimise discomfort.
- · Install thermometers and identify cool areas.
- Insulate high-temperature pipes and plant.
- · Ensure there is good ventilation and encourage regular breaks (provide water and ice).
- · Moving workstations away from direct heat and fitting external shutters can help reduce glare.
- If you do not have suitable air-conditioning equipment and do not wish to install it, consider other ventilation and working-from-home options.

## In very low temperatures:

- Ensure that you have grit/salt supplies and that adequate gritting of access routes is undertaken in snowy and icy conditions.
- · For outside workers, increase breaks to avoid hypothermia and consider other measures such as cold weather clothing.
- · Encourage staff to wear appropriate footwear to prevent slipping on ice.

# Ask yourself:

- Are your staff vulnerable to extreme temperatures (heat and cold) and have you considered risks such as fainting, injury and reductions in efficiency?
- Do your staff have any medical conditions (such as high or low blood pressure, heart disease, epilepsy or diabetes) which might be made worse by extreme temperatures (hot or cold)?
- Have you considered other people that could be at risk, such as nursing or expectant mothers, outside workers, manual workers who are physically active, kitchen staff or staff operating equipment or machinery?
- · Are there any areas where slips and falls could occur during extreme cold or rainfall?
- Are any of your staff unable to get to work in extreme weather? Are their homes or travel routes or children's schools likely to be affected?

## Further information

- You can check online for up to date information on road gritting: www.cumbria.gov.uk/gritting/
- The NHS provides advice on the risks of heatwaves and how to prepare: www.nhs.uk/Livewell/Summerhealth/ Pages/Heatwave.aspx
- The HSE provides information on workplace temperature requirements: www.hse.gov.uk/temperature/index.htm
- The Institution of Occupational Safety and Health (IOSH) provides a free information line to the public with staff that can advise on business risk management and environmental issues. Call the IOSH helpline on 0116 257 3199 or email techinfo@iosh.co.uk. More info can be found on their website: www.iosh.co.uk



# Suppliers, logistics and delivery

# Ask yourself:

- · What happens if your suppliers cannot get to you because of weather-related disruptions?
- What would happen if you could not get your products or services to your customers because of weatherrelated disruptions to road, rail or air services? Or if your customers could not get to you?
- Do you lease equipment or plant which could be damaged at a customer's property? Would production come to a halt?
- · What happens if your staff cannot get to work?

# Take action:

- · Consider alternative suppliers and/or increasing storage capacity to increase your ability to operate without deliveries.
- · Consider sharing suppliers with similar businesses in your area.
- Think about how you get your products to your customers or how your customers get to you. Consider how the routes could be disrupted by extreme weather.
- · Make sure the drivers of vehicles transporting your products are experienced and are aware of the risks of driving in extreme weather (i.e. through floodwaters, on icy roads or during high winds).
- · If your staff drive for business, make sure they are aware of procedures for driving in severe weather.
- Alternatively, consider using teleconferences for meetings when you cannot deliver your service in person.

# Further information

· Seek advice from your suppliers and other similar businesses to identify alternative options.

"In Allerdale alone, Storm Desmond caused damage to 781 parts of the highways network, including 146 becks and bridges and 246 different areas of road. Diversions were up to 90 miles long."

(Source: Cumbria County Council.)



# Products, processes, stock and raw materials

# Ask yourself:

- · Have you thought about where you store your products, stock and raw materials?
- Do you know how to contact your employees out of hours to get assistance in moving or protecting stock?
- Do you have any processes or products that are temperature- or climate-sensitive?

## Take action:

- · Raise your stock off the floor to reduce its vulnerability to a flood. Do not store stock in the basement if possible.
- · Think about expensive stock such as plant and vehicles and whether they can be relocated rapidly.
- Know where your drains are and keep them unblocked.
- Empty oil traps regularly to minimise pollution in the event of floods.



# Case study

# Acting Fast When Floods Arrive

The Joiners Arms, Carlisle

Marion Jones, landlady and licensee of The Joiners Arms, recalls the Saturday night in December 2015 when water poured onto Caldewgate. "When it comes,

Having been flooded before, in 2005, Marion knew it was important to act fast. Customers helped-out, heading for the bottle store and grabbing cases of beer, boxes of crisps and cans of soft drinks. There was no looting though.

ceiling down!"

Having been flooded before and lost trade from being closed Marion's priority was to reopen as soon as possible this time. "When we were last flooded 11 years



of Star Pubs & Bars, who own the building.

stripped everything out, getting rid of the gunge and

"I've heard heartbreaking stories of fellow businesses not

# Emergency contacts and important documents

# Ask yourself:

- Do you have a list of contacts that you can reach in an emergency? Do your employees have access to this list?
- Have you got a copy of your important documents saved in a separate location, for example insurance policies, accounts documents, product specifications, client details etc.?
- · Do you archive paper records off site?

## Take action:

- Make sure you have out-of-hours details of your staff so they can be contacted in an emergency.
- · Keep your important documents in a safe place. This will help to make an insurance claim move more quickly.
- · Complete this simple template to make yourself a 10-minute Emergency Plan. Then keep copies onsite, off-site and in key business vehicles. www.bitc.org.uk/sites/default/files/7936 berg 10 minute plan\_0.pdf

# Further information

- · Is your business at risk of flooding? Find out now, call the Environment Agency Floodline on 0845 988 1188 or visit www.gov.uk/check-flood-risk
- The Environment Agency publication "Would your business stay afloat? A guide to preparing your business for flooding" has a simple template to use to create a flood plan for your company: www.gov.uk/prepare-for-aflood/make-a-flood-plan



# Special considerations for agricultural businesses

In addition to the potential impacts that are common to all businesses, the agricultural and horticultural sector in Cumbria faces a different, and additional, set of issues. These businesses are directly affected by climate, and extreme weather events can have a significant impact.

# Key Risks Faced in the Future:

- · More days of saturated soil and flooded land results in loss of grazing land and need for reduction in stocking rate or longer housing period, with increased need to buy in food.
- Vehicular access to fields, remote farm buildings, crops and livestock may become more difficult, affecting ability to operate farm business effectively, or result in soil erosion and rutting.
- · Greater extremes of wetting and drying may affect wall foundations, with a risk of needing additional maintenance.
- · Increase in wet ground and lack of prolonged cold temperatures may lead to an increase in new and existing pests and diseases for plants, trees and livestock, such as liver fluke.
- Adverse weather and increased rainfall may result in higher lamb mortality.
- Changes in vegetation. Weeds may decrease or increase and potential for new invasive species
- · More rainfall increases risk of effluent entering water course and removal of topsoil and nutrients.
- · A reduction in the quality and quantity of grass caused by lower rainfall and higher temperatures during summer (which may require feed for livestock to be supplemented).
- Seasonality changes to feed intake, liveweight gain, breeding and lactation cycles, grass/crop growth, cutting and grazing regimes and specified dates in agri-environment agreements.

# If Your Farm Faces Flooding:

- Have an early warning system that gives everyone time to act. For example, sign up for warning via the Environment Agency's Floodline on 0345 988 1188.
- Identify chemicals and fuels that could contaminate floodwater and consider how you will move them to a safe place.
- Identify areas where at risk stock and machinery could be moved to.
- Move livestock from flood-prone buildings to higher ground as quickly as possible - well designed and maintained handling facilities will make dealing with stressed livestock easier.
- If you're hit with a flood, regularly inspect water supply and feed stocks for contamination, and don't use feed that may be contaminated or water damaged.
- Account for livestock after the flood, identify missing animals and inform neighbours.
- Take photographs as evidence to show the extent of flooding, in case a recovery fund is established. (After Storm Desmond around £5 million was allocated to over 500 farms across Cumbria as part of the Farming Recovery Fund set up by the government.)



# What can I do to prepare?

# Help Yourself - Actions to Take:

- Maintain drainage infrastructure year-round
- · Make sure all sub-contractors, as well as staff, know your flood and storm emergency plans.
- Make sure you have enough capacity for slurry storage to see you through the bad weather. Check rainwater from guttering is not directed to the slurry store, as it can use up vital capacity.
- Ensure you have enough feed and fuel for when supplies can't get through to the farm.
- Upgrade water storage and distribution systems and reduce water loss from cracked pipes.
- Use natural windbreaks where appropriate to reduce soil erosion.
- · Consider planting shelter belts which could also provide shade and improve biosecurity
- · Consider changing the timing of agriculture practices to suit new climatic conditions.
- Do not work at height on stormy or frozen days. In 2015/2016, falls from working at height was the second biggest cause of fatal accidents in farming, accounting for 21% of deaths.
- The free national 105 telephone number allows customers to report issues with power, and substations that could be dangerous. Where there's a serious and immediate risk, call the emergency services on 999.
- Carry out a free online assessment of the risks your farm faces, and changes you can make via: www.farmbusinessresilience.co.uk
- Be alert for pests, diseases and changes in vegetation that may require changes in animal health plans or herbicide applications. Put in place biosecurity measures.

# Opportunities from Cumbria's Changing Climate:

- · Increased mean annual soil temperatures provide a longer growing season, and opportunities for new crops, including crops for energy.
- · A potentially longer grazing season reduces period of housing and associated feed/bedding costs and slurry storage.
- Heat/drought tolerances need to be introduced into breeding – opportunity to introduce new breeds.

- Heavy rainfall events in winter could provide opportunities for increased water storage for use during summer water shortages.
- Higher summer temperatures and reduced cloud cover could increase the demand for outdoor leisure and tourism, which could create opportunities for diversification.
- Higher average winter temperatures could reduce problems for livestock in freezing weather.

## Further information:

- Farming Futures has information on how farming can adapt to and benefit from our changing climate. See: www.farmingfutures.org.uk
- · NFU has information online about preparing for winter and flooding: www.nfuonline.com/cross-sector/ environment/weather/weather-news/get-ahead-and-planfor-winter-weather/
- Farming for a better climate has practical options and case studies on adapting to climate change and reducing agricultural greenhouse gas emissions: www.sruc.ac.uk/info/120175/farming for a better
- You can carry out a free online Resilience Healthcheck for agricultural businesses at: www.farmbusinessresilience.co.uk



# Case study

2015 Flooding Impact on Cumbria's Farms



Defra and Cumbria County Council have estimated that 650 Cumbrian farms were affected by December 2015 storm damage with loss of around 1000 sheep and 20 cows. Up to 2000 parcels of land were flooded and 40 farms had over 50% of their fields flooded.

The Cumbrian Farm Flood Action Group survey contacted 1,000 farmers, of whom 220 completed a detailed survey. Of those surveyed:

- 63% lost sections of watercourse bank sides
- 37% lost walls

- 14% lost hedgerows
- 38 farmers reported 701 sheep deaths between them and in addition 16 farmers reported a total of 189 sheep missing
- 53% reported river stone/gravel deposit and 22% had land slips

The loss of business and accessibility via road networks also led to problems with milk collections and concern about animal feed supplies.



# What can I do to prepare?

# Making a business continuity plan

If you would like to make your own business continuity plan take a look at the checklist on the inside back cover of this document. It will guide you through some key guestions to think about.

## You might also find these websites helpful:

#### **Emergency Plan**

A simple template to make yourself a 10-minute Emergency Plan.

www.bitc.org.uk/sites/default/files/7936 berg 10 minute plan vs2 0.pdf

#### **Business Resilience Healthcheck**

Free online "healthcheck" for your business that generates an Action Plan for you to follow www.businessresilience.org

#### **Continuity Planning**

An in depth guide for creating a continuity plan for mediumlarge sized businesses

www.bitc.org.uk/sites/default/files/7936 berg 10 minute plan vs2 0.pdf



# Case study

# Pop-Up-Shops and Marketing Grasmere Gingerbread ®



Whilst the Sarah Nelson Gingerbread Shop in Grasmere was relatively untouched by flood water the company suffered great losses at its warehouse in Kendal. The damage to the A591 also dramatically reduced the number of visitors to Grasmere, who wrongly perceived the village to be "closed", and the company saw their shop sales plunge in the weeks following the flooding. With staff facing redundancy, Joanne Hunter and her husband Andrew, embarked on new marketing campaigns and innovative ways to raise awareness of and sell their products.

Joanne worked closely with other Cumbrian businesses, knowing that "people are passionate about the region and will help each other". Lakeland Limited kindly hosted a manned stall in their Windermere store for the 5 months that the A591 was closed, and Joanne also experimented with short-term pop-up shops hosted by other businesses in Bowness, Whitehaven and Carlisle.

The Grasmere Gingerbread ® Company also increased its marketing outside of Cumbria, taking up support grants from the Cumbria Business Growth Hub, to allow them to market their products to coach companies, holiday guides, wedding fayres and food festivals across the UK.

The company has weathered this storm, and has already been able to take back on one of the staff members that had to be made redundant. The flooding has put the company into a forward thinking marketing mind-set, with awareness of "what do we need to do to keep going in case this happens again?"

# Opportunities for small businesses

The following table provides some examples of opportunities that small and medium businesses could consider, arising from a changing climate:

Markets	Finance	Logistics	Premises	People	Process
New products or modifications to existing products to respond to a changing market	Good risk management will appeal to financiers and insurers and other stakeholders, leading to reduced insurance premiums	Competitive advantage for companies with redundancy or flexibility built into delivery systems and supply chains or those undertaking business continuity planning	Keeping warm in winter months is less of a challenge	Greater comfort and lower fuel bills in winter	Agriculture: Longer growing season and new species and varieties of plants can be grown
Advantages for early movers in response to changed markets and lifestyles	Potential risks reduced and liabilities diminished through pro-active risk assessment and implementation	Supplying local markets creates an opportunity for a marketing approach based on regional distinctiveness or reduced product miles	Opportunities for high thermal mass building solutions, which can reduce air-conditioning requirements	Responding effectively as a good employer increases recruitment and retention of high quality staff	Manufacturing: Developing expertise in managing industrial processes and technologies in response to climate change
Increased passing trade in some sectors during long hot summers	Clients and customers attracted to businesses that can show they are resilient to climate change	Using local suppliers, with less far to travel, can make it easier for you to get supplies in bad weather, increasing your business' resilience	Opportunities for those in built environment industries to develop expertise and reputation in climate-related building services	Opportunity to improve work/ life balance by responding to climate change risks with flexible working hours and increased home working	Finance: New insurance products and services that spread the risk of climate change and incorporate underwriting that takes account of climate change
Increased demand for some products and services			Opportunity to exploit external spaces to accommodate outdoor living	Generally more outdoor activity creates opportunities in some industries	Construction: Fewer delays on site through frosts
More extreme events mean opportunities (i.e. maintenance services, repair, al fresco eating facilities)					

(Adapted from: UKCIP, A Changing Climate for Business: business planning for the impacts of climate change, revised edition January 2009.)

# Cut carbon and reduce costs

Every company, no matter what its size, can save money on its energy bills by following some simple steps. Cutting energy use and saving carbon now will help to reduce further climate change in the future.

You don't have to invest lots of money or make big changes to your business to save on your energy bills. The right combination of small changes, many costing nothing, can reduce your energy bill by £1,000s.

Here are some simple, no-cost, energy-saving tips for small businesses:

Issue	What can you do to save money and cut carbon at no cost?
Heating	Set controls. Programme your heating system controllers to allow for varying building occupancy throughout the week.
Lighting	Switch lights off in empty rooms. You could cut your lighting costs by as much as 15% just by making sure you turn off lights in areas that aren't being used.
Ventilation	As simple as it sounds, making the most of natural ventilation through correct use of doors, windows and vents is a cost-effective way of achieving big savings on your ventilation.
Office equipment	Switch computers off. A single computer and monitor left on 24 hours a day could cost over £50 a year. Switching it off out of hours and enabling standby features could reduce this to £15 a year.
Refrigeration	Ensure your system is set at the right temperature. Even if it's 1°C lower than needed, your costs could rise by 2–4%.
Motors and drives	Switch off motors and other power equipment when they aren't being used.
Boilers	Service boilers every year – a regularly serviced boiler can save up to 10% on heating costs.
Compressed air	Find and fix leaks – a 3 mm hole in your compressed air system could cost more than £700 per year in wasted energy.
Good maintenance	Equipment which is poorly maintained will not operate efficiently and will need more energy.
Knowledge	Make sure everyone knows that saving energy will help the company. Ask your colleagues for their ideas on how you could all save energy.

# Help and ideas for cutting carbon

You can find more information and tips for resource efficiency online at: www.wrap.org.uk/content/business-resource-efficiency-hub

Many companies across the North West have begun to make changes and have made significant cost savings on their utilities, raw materials and carbon emissions. You can read some examples at: www.enworks.com/case-studies



## National information & contacts

#### **Business Resilience Healthcheck**

The free Business Resilience Healthcheck online tool identifies areas where business operations could be affected by severe weather and climate change. It produces a bespoke Action Plan report outlining the actions you can take to make your business more resilient. www.businessresilience.org

#### **Business in the Community**

Business in the Community (BitC) is a business-led charity providing practical support to promote responsible business practice. Its members work together to transform communities by tackling issues where business can make a real difference. BitC convenes The Prince's Mayday Network as part of its Environment programme. www.bitc.org.uk/north-west



## **Climate Change North West**

The North West Climate Change Partnership is a group of organisations that work together to enhance the delivery of a shared vision of a low-carbon and well-adapting North West. Their website resource library contains key documents and links relating to climate change and energy issues in the North West of England. www.claspinfo.org

#### Climate UK

Climate UK is a not-for-profit Community Interest Company working with Climate Change Partnerships across England, Wales, Scotland and Northern Ireland to promote action on climate change. They aim to investigate, inform and advise on risks and opportunities presented by climate change, and coordinate and support integrated, sustainable and effective responses. Through their network of trusted and independent Climate Change Partnerships, they uniquely offer both local and national coverage by bringing together local knowledge and technical expertise from a range of sectors. www.climate.uk.net

## **National Adaptation Programme**

The National Adaptation Programme sets out what government, businesses and society are doing to become more climate ready. www.gov.uk/government/publications/adapting-to-climatechange-national-adaptation-programme

## **Association of British Insurers (ABI)**

ABI provide advice on insurance issues and have a range of insurance publications for SMEs. www.abi.org.uk

Tel: 020 7600 3333

#### **British Chambers of Commerce (BCC)**

Your Chamber of Commerce can provide advice, support and guidance on climate change adaptation issues. Find your local Chamber of Commerce on the website provided.

www.britishchambers.org.uk

Tel: 020 7654 5800

## **British Insurance Brokers' Association (BIBA)**

Contact your own insurance broker for advice; alternatively, contact BIBA who can help you find a member broker. www.biba.org.uk

Tel: 0870 950 1790

## **Blue Pages Directory**

A directory of property flood products and services which can help reduce the risk of and impacts from flooding. www.bluepages.org.uk

#### **Carbon Trust**

Provides specialist support to business and the public sector to help cut carbon emissions, save energy and commercialise low-carbon technologies.

www.carbontrust.com Tel: 020 7170 7000

#### **Committee on Climate Change**

An independent, statutory body advising the UK Government on climate change. They have a sub-group focusing on adaptation.

www.theccc.org.uk/about/structure-and-governance/ascmembers

#### Confederation of British Industry (CBI)

The CBI helps create and sustain conditions in which business in the UK can compete and prosper. CBI provides advice on how to reduce your carbon footprint, case studies and information on climate change events.

news.cbi.org.uk/business-issues/energy-and-climate-change/ Tel: 0207 379 7400

## **Construction Industry Research and Information Association (CIRIA)**

CIRIA provide useful information on the repair and restoration of buildings following floods.

www.ciria.org/flooding

## **Department for Environment Food and Rural** Affairs (Defra)

Defra is the lead central government department on climate change adaptation. Defra led on the UK's first Climate Change Risk Assessment published in January 2012, and on the development of the National Adaptation Programme. published in 2013.

www.defra.gov.uk/environment/climate

Tel: 08459 335577

#### **Energy Saving Trust**

The Energy Saving Trust Foundation gives impartial advice to communities and households on how to reduce carbon emissions, how to use water more sustainably, and how to save money on energy bills.

www.energysavingtrust.org.uk

Tel: 0300 123 1234

#### **Environment Agency**

The Environment Agency is the lead Government agency in England and Wales on flooding and broader environmental management and is the Government's delivery body in England for climate change adaptation.

www.environment-agency.gov.uk

The Environment Agency is able to offer businesses support on setting up of flood groups and the creation business flood plans.

General Enquiries Tel: 03708 506 506

Floodline Tel: 0845 988 1188

## **Farming Futures**

Farming Futures provides farmers and land managers with inspiration and information to ensure their business is profitable and sustainable in a changing economic and environmental climate.

Farming Futures is supported, amongst others, by Defra and the National Farmers Union (NFU). It provides a series of fact sheets and case studies on its website, prepared for each farming sector:

www.farmingfutures.org.uk/resources/factsheets

Tel: 01223 342 313

#### Federation of Small Businesses (FSB)

The FSB is the UK's largest campaigning pressure group promoting and protecting the interests of the self-employed and owners of small firms.

www.fsb.org.uk Tel: 0808 2020 888

## **Flood Warnings Direct**

A free service run by the Environment Agency that will send alerts to your phone if you are at risk of flooding. fwd.environment-agency.gov.uk

#### Gov.uk

Gov.uk has replaced the Business Link website as the source of Government services and information for businesses. Support is available over the phone via 0300 456 3565 or online:

www.gov.uk/business-support-helpline

#### Institution of Occupational Safety and Health (IOSH)

As the biggest health and safety membership organisation in the world, IOSH is committed to creating a world of work which is safe, healthy and sustainable. IOSH provides a range of free guidance and online tools aimed at both the operational and strategic level.

www.iosh.co.uk Tel: 0116 257 3100

#### Kitemark

Tested and approved flood protection products.

www.kitemark.com Tel: 0845 0809 000

#### **Local Enterprise Partnership**

Cumbria LEP is Cumbria's public/private partnership promoting economic growth in the region. www.cumbrialep.co.uk

#### **Met Office**

The UK's national weather service, with forecasts available from its website. Forecasts are for anything from the next few hours to the coming season.

www.metoffice.gov.uk Tel: 01392 885680

#### **National Farmers Union (NFU)**

The NFU champions British farming and provides professional representation and services to its members. www.nfuonline.com

Tel: 024 76858500

#### **National Flood Forum**

A charity providing support and advice to communities and individuals that have been flooded or are at risk of flooding. www.nationalfloodforum.org.uk

Tel: 01299 403055

#### **Natural England**

An independent public body that works to protect and improve England's natural environment. www.naturalengland.org.uk

Tel: 0845 6003078

#### The Prince's Mayday Network

The Mayday Network is a collaboration of businesses taking action on climate change and resource depletion. Mayday businesses work together and with partners to seek out and promote the best solutions to the major environmental challenges we face.

www.maydaynetwork.com

#### **UK Climate Change Risk Assessment (UK CCRA)**

Every five years the UK Government must carry out an assessment of the current and future risks to the country from climate change. The next assessment is due in January 2017 and initial information is online:

www.theccc.org.uk/tackling-climate-change/preparing-forclimate-change/climate-change-risk-assessment-2017/

#### **UK Climate Impacts Programme (UKCIP)**

UKCIP helps organisations assess how they might be affected by climate change, so they can prepare for its impacts. Tools that UKCIP have prepared include BACLIAT and CLARA for businesses and business advisors respectively.

www.ukcip.org.uk Tel: 01865 285717

#### **BACLIAT**

BACLIAT is a good starting point for exploring the implications of climate change for your particular business or sector. It comprises a simple checklist for assessing the potential impacts of climate change.

www.ukcip.org.uk/bacliat



# Checklist

Thinking about potential disruption and putting simple preparations in place can save you time and money when something untoward happens. Making a simple plan using the checklist below could suggest ways to make your organisation better able to withstand disruption and may also help identify areas of your business that require additional resilience.

## Insurance

• When did you last check that you have the insurance you need? Are you covered for floods and storm events, and business interruption?
Note
Flooding risk
• Do you know if you are in an area at risk from flooding or flash flooding? Find out now, call the Environment Agency Floodline on 0845 988 1188 or visit http://goo.gl/S3hLB You can also sign up to their Flood Warning Service at https://fwd.environment-agency.gov.uk
Notes
Premises
• Do you check drainage systems (guttering, downpipes and drains) to ensure they are not blocked?
• Have you considered if there are any simple changes you could make to your buildings to help them cope better with storms, flooding and heat?
Have you considered whether you could operate from alternative premises if you had to?
Notes
People

- Do you know how to contact your employees out of hours to get assistance in moving or protecting stock?
- Do your staff have any medical conditions (such as high or low blood pressure, heart disease, epilepsy or diabetes) which might be made worse by extreme temperatures (hot or cold)?
- If your staff drive for business, make sure they are aware of procedures for driving in severe weather.



affected? Are their children's schools likely to close? Do you have procedures in place to handle this? Can staff work from home if necessary?							
Notes							
Utilities							
Have you thought about what would you do if your business was cut off from the mains power supply, or water supply?							
Notes							
IT and back-ups							
<ul> <li>Flooding, storms or power surges could damage computers and electronic files could be lost. Do you have a back-up and is it saved in a safe, separate location?</li> </ul>							
• If your staff are unable to get to work, either because homes or working premises are affected by snow, floods or storm damage, can you continue to do business? Can they work from home, with access to IT?							
• Do you hold a list (off site) of important contacts such as insurance, landlord details, suppliers, customers and other key contacts?							
Notes							
Products and suppliers							
• Think about how you get your products to your customers or how your customers get to you. Consider how the routes could be disrupted by extreme weather.							
• Do you have accounts in place for alternative suppliers, in the event of transportation delays or main supplier problems?							
<ul> <li>Do you experience seasonal variances in demand for your product or service? Have you investigated the potential opportunities that may exist for your products and services from severe weather?</li> </ul>							
<ul> <li>Once you've worked through this checklist you could tell your customers and suppliers that you are starting to get 'climate ready' and have adopted the principles in this guide.</li> </ul>							
Notes							
If you would like to give your business a free Business Resilience Healthcheck you can do so online at: www.businessresilience.org							

• Find out which of your staff may be unable to get to work in extreme weather. Are their homes or travel routes likely to be

Notes					

















