WEATHERING THE STORM

Saving and making money in a changing climate

www.sustainabilityeast.org.uk
Foreword

There is a growing imperative for small and medium sized businesses to address the risks posed by extreme weather. Recent weather events in the UK, most notably the winter storms and floods in 2013/14, are in line with the projections for increased frequency and intensity of storms, flooding, heatwaves and droughts resulting from climate change. Business as usual is no longer an option. To maintain competitiveness and to continue operating in a changing climate, SMEs are encouraged to start building their resilience to extreme weather over the short, medium and long term. Immediate actions include the undertaking of short-term current vulnerability assessments and comprehensive business continuity planning. Businesses are also encouraged to adapt to risks and opportunities, for example, changing consumer habits and markets arising from incremental changes in our average climate.

Within my sector, water companies together with regulators and government are developing approaches to both adapt and to mitigate the impacts of the changing climate. With a growing population, greater demand for food and an increasingly fragile natural environment, effective management of the water resources within the UK is fundamental to securing successful futures for people, businesses and the environment. With all business sectors taking on the adaptation challenge, risks to the East of England as a whole from extreme weather and climate change will be reduced.

This document provides an excellent starting point for businesses to start thinking about extreme weather events and climate change and to devise some practical measures on how best to deal with it. This guide focuses on actions that are relatively easy and straightforward for SMEs to achieve - tackling issues that are within your control or influence. It also references online tools, advice and support and includes important contact information to further enable SMEs to take action to build resilience against climate change and extreme weather events.

John Devall
Chair, Sustainability East
The aim of this guide is to support small and medium businesses in the East of England to consider the risks and opportunities of extreme weather and climate change and to highlight some potential routes and actions that may help businesses build resilience.

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Executive Summary

Extreme weather and climate change present a significant challenge to small and medium businesses (SMEs) in the East of England. The recent events of the winter 2013/14 storms and flooding highlight the huge disruption and economic loss that extreme weather can cause to UK businesses of all sizes across all sectors. In that period, 3200 commercial properties were flooded and £145m worth of insurance claims were made by businesses. Small businesses, take on average 50 days to recover from a flood and 69% have no business continuity plan, so disruption can be expensive.

Extreme weather events arising from our changing climate are becoming more frequent and severe. In the East of England flood risk is particularly high due to rising sea levels, extensive areas of low-lying land, and projections of increasing winter rainfall. At the same time, projections also reveal businesses in the area face the risk of water scarcity and the increased likelihood of summer heatwaves. These changes could impact on operations, premises, staff and also disrupt your supply chains and distribution channels.

Acting now to prepare for these issues makes sound business sense. Actions such as considering supply chain management, creating a business continuity plan and ensuring suitable insurance policies are in place significantly improve your chances of making a quick recovery and offsetting the costs of a damaging weather event. Given the impact that extreme weather can have on your operations and your customers, there is an ever-growing need for you to take responsibility and communicate how your business is adapting to and dealing with these risks.

The Climate Ready Support Service, led by the Environment Agency, has developed several accessible tools to help businesses adapt to extreme weather and climate change. These are highlighted and you are encouraged to use them in conjunction with this guide. It is important that business leaders, local authorities and the third sector work together strategically to build resilience and lower risks across the East of England as a whole.
There is clear evidence that the UK is already vulnerable to extreme weather including flooding from rivers and the sea, severe winters, storms, heatwaves and drought\(^1\). Indeed, a major coastal flood event is regarded as one of the most significant risks to the UK\(^2\).

These risks are growing due to increases in the frequency and severity of extreme weather as a result of climate change. The attribution of individual weather events to climate change is still an area in which the science is developing, but there is emerging evidence that man-made greenhouse gas emissions have already made heatwaves, and possibly flooding, more likely in the UK. Across the UK, the main climate challenges to businesses are flooding and coastal erosion, increased competition for water, and disruption of transport and communication links\(^1\).

It is not enough to purely reduce emissions to mitigate climate change; we must adapt to prepare for the changes to which we are already committed now and over the next century\(^3\). Indeed, extreme weather events, in particular heatwaves and flooding, are deemed the most early impact risks posed to the UK by climate change\(^4\). It is imperative that adaptation actions consider both short-term resilience and long-term sustainability in the face of climate change. This must take place alongside continued efforts to reduce emissions to mitigate further climate change.

Further information

Climate Change Risks for East England

The Summary of Climate Change Risks for East England\(^5\) is distilled from the wider UK Climate Change Risk Assessment (2012)\(^1\). The regional summary, analyses the key risks and opportunities that changes to the climate bring to the East of England, both now and over the coming century, across 5 themes: Natural Environment, Buildings and Infrastructure, Health and Wellbeing, Business and Services, and Agriculture and Forestry.


UK Climate Change Projections 2009 (UKCP09)

The risk assessment is based on estimates for how the climate is likely to change taken from the UK Climate Projections 2009\(^6\), published by Defra. These projections are based on emissions scenarios and show a range of possible outcomes and the confidence level of each.

[http://ukclimateprojections.defra.gov.uk](http://ukclimateprojections.defra.gov.uk)

National Adaptation Programme

The risk assessment has been used to inform the National Adaptation Programme\(^7\) which sets out the main priorities for adaptation in the UK across the same 5 themes.

The business case for adaptation

Why should you consider adaptation?
Understanding how your business could be directly affected and how your customers, suppliers and partners are likely to interpret these changes makes good business sense.

1. Weather and climate present threats and opportunities to your business

Evidence shows that costs of extreme weather to business are growing and that small firms are not prepared. As extreme weather events become more frequent and severe, and the climate changes, you will be faced with the need to prepare for a range of new threats and opportunities in all areas of your business.

Threats to business include increased risk of interruption and financial loss. These may be due to either direct climate impacts on your assets and productivity, or indirect impacts such as on your customers and supply chains, and the cost and availability of resources.

Opportunities may arise for those able to take advantage of changing market conditions, for example expansion of tourism, provision of adaptation goods and services, or investment in the low carbon sector.

Threats and opportunities will vary between business sectors. It is important to consider the particular threats and opportunities to your business in light of the information in the ‘What could happen?’ section below. This section explores the specific weather and climate risks to the East of England.

Growing business costs from extreme weather

- The winter 2013/14 storms and floods (see page 11) are the most recent of a series of recent extreme weather events in the UK.
- 2012 was the wettest summer since 1912 - flooding across most regions of England and Wales cost businesses £200m and the economy £12bn.
- The drought of spring 2011 was particularly severe in the East of England, resulting in restrictions in water use and costing agricultural businesses thousands of pounds.
- The heatwave of summer 2003 caused extensive disruption to business through loss of staff productivity and disruption to transport infrastructure.

Small businesses are currently not prepared

- Small businesses take on average 50 days to recover from a flood.
- 29% do not have insurance for loss of income or damage caused by flooding.
- 59% do not have plans in place for extreme weather, despite 66% having been affected by snow, drought or floods in the last 3 years.
- 46% of small businesses affected by extreme weather experienced disruption to staff and customers, and 32% experienced disruption to suppliers, utilities or transport arrangements.

Weathering the Storm
2. Building resilience brings your business a number of advantages

Anticipating these threats and opportunities will increase the current and future economic competitiveness of your business and will help you to 'bounce back' when extreme events occur.

Taking the time to consider how to manage risk and make the most of opportunities will bring a number of business advantages. Whilst some actions will have an initial cost, they should save you money in the long term. It has been estimated that every £1 spent on adaptation could save £4 in avoided damages. Additionally, not all actions (i.e. changes to your policies and procedures) designed to strengthen your resilience will incur additional costs. Whether or not you act to build resilience, your competitors will.

3. Planned adaptation is more effective and less expensive than last minute, reactive actions

It may be challenging to consider weather and climate within the short planning horizons of your business, however, it is much more effective and low cost to identify and manage the possible risks and opportunities rather than reacting to events when they occur.

A) Planning ahead can help reduce costs relating to business disruption, reduced productivity, and the costs of repairing or replacing damaged premises or equipment. Considering future climate risks in maintenance programmes, new buildings or equipment replacement costs less than last-minute retrofitting.

B) Adaptive capacity needs to be built over time. Forward planning may be needed to: determine the best adaptation option; re-write relevant policies, plans and procedures; and assign roles and responsibilities.

C) Planning ahead is still possible in the face of uncertainty. A risk-based approach allows you to make decisions amidst the uncertainty of future climate impacts and is more likely to lead to cost-effective adaptation.

4. Government, insurers and investors increasingly require the consideration of climate change in business decisions

Awareness of adaptation needs are rising across all sectors and is increasingly becoming a mainstream business consideration. Political, financial or legislative drivers such as the Climate Change Act (2008) may require your business to adapt.

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Potential benefits to your business:

- Reduce costs and increase profits
- Improve goods and services and increase efficiency of processes
- ‘Early mover’ advantage of exploiting new goods and services markets
- Improve business competitiveness
- Reduce business interruption from direct and supply chain weather impacts
- Protect your existing customer base
- Improve health and safety and job security
- Reduce insurance premiums
- Improve business reputation

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7 Weathering the Storm
What could happen?

Like any other issue facing your business, it is important to understand how extreme weather and climate change impacts could affect you. Based on the UK Climate Projections 2009\(^6\), the Climate Change Risk Assessment (2012)\(^1\) highlights several key risks for the East of England: hotter summers, greater flooding, increased water scarcity and rising sea levels. These present a variety of business risks to SMEs like yours.

### Heatwaves

8 of the 10 ten hottest years in the UK have occurred since 2002\(^{14}\). Summers as hot as 2003, which killed about 2000 people in the UK, could happen every other year by 2050 as a result of climate change\(^{11}\). In the East of England, temperature on the hottest day of the year could increase by up to 9°C by the 2080s\(^6\).

**Business risks:**

- Loss of productivity due to reduced staff attendance caused by heat
- Increased energy costs for summer cooling
- Risk of equipment overheating
- Heat related damage and/or disruption to energy and transport networks
- Agriculture may be affected by changing growing seasons and changing viable crop types, posing a risk to food security

### Flooding

Flooding is one of the key risks posed to the UK by climate change. Here in the East of England, people and infrastructure are at particular risk of flooding from rivers and the sea. The effect of sea level rise on flood risk to the extensive low lying areas in the East of England is of major significance\(^5\). Furthermore, rainfall on the wettest day of the year could increase by up to 41% in the 2080s\(^6\). In the East of England 8% of properties are at risk of flooding, and in Norfolk the percentage is 25%\(^5\).

**Business risks:**

- Damage to fixed assets and stock
- Loss of business continuity
- Increased insurance claims
- Severe transport disruption
- Risks to national infrastructure
- Agriculture may be affected by soil erosion and nutrient run-off
- Inundation of agricultural land
**Water scarcity**

The East of England is one of the most vulnerable regions across the UK for changes in water availability. It is the driest region in England, receiving only 70% of the national average rainfall\(^5\). Most of the East of England is recorded as being over-abstracted or over-licensed at low flows\(^5\).

The gap between demand and availability is set to widen in the future. Firstly, although winters will experience greater rainfall and the wettest days will get wetter, summer rainfall is projected to decrease\(^6\). Additionally, there are high levels of planned growth (a target of building just over 500,000 new homes in the region by 2021) and increased water demand from industries, particularly agricultural irrigation, further increases the pressure on supply\(^5\).

**Sea level rise**

The East of England is a low-lying area with one-fifth of the region below sea level\(^9\). It is anticipated that the East of England could face a significant rise in sea level of up to 0.54m by the end of the century and increased occurrences of tidal flooding compared with the present day\(^5\). 1180kms of sea and estuary defences are coming under increasing pressures\(^5\).

Norfolk and Suffolk have some of the fastest eroding coastline in Europe, in places at a rate of up to 5 metres per year\(^5\). The specific geology of the coastal areas (clay and sandstone) makes them particularly vulnerable to erosion and sea level rise and severe weather will exacerbate this, threatening coastal communities and infrastructure. Over 100,000 properties face a potential risk from tidal flooding or coastal erosion\(^6\).

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<td>• more frequent water use restrictions in the short term and water shortages in the long term, particularly during summer months</td>
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<td>• risk to long term viability of current agricultural business models due to need for increased water efficiency and decreased levels of water abstraction in summer months</td>
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<td>• decreased crop yields and risks to agricultural production from drought</td>
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<td>• risks to buildings and transport infrastructure from increased subsidence</td>
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<th>Business risks:</th>
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<td>• risk to the tourist industry from increased infrastructure damage, loss of natural assets such as beaches, and damage to built assets such as attractions and historical monuments.</td>
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<td>• risks of tidal flooding, coastal erosion and storm surge to business property</td>
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<tr>
<td>• risks of tidal flooding, coastal erosion and storm surge to high quality agricultural land</td>
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Increased flooding is the most visible result of our changing climate. Even minor events can have significant impacts on people and businesses. At its worst flooding can be life threatening. Annual damage to properties in England and Wales, due to flooding from rivers and the sea, is estimated to rise from £1.2 billion to between £2.1 billion and £12 billion by the 2080s.

Amongst a series of other extreme weather events around the globe, the winter 2013/14 storms and floods are consistent with the projected consequences of a changing climate. December 2013 was the stormiest since 1969 and winter 2013/14 as a whole was the wettest on record. Thousands of people were evacuated, landslips were triggered, and power lines were brought down.

The extensive damage and disruption of the events, highlights the costs to businesses of a lack of resilience. 3,200 commercial properties were flooded and £145m worth insurance claims were made by businesses between Dec 23rd 2013 and Feb 28th 2014. Flooding cost small businesses in affected areas an average of £1,531.

The East of England

The East of England was hit hard by the events of winter 2013/14, experiencing the worst tidal surge in 60 years. Over December 5th and December 6th 2013, a North Sea storm surge caused extensive flooding along the East Coast. The surge peaked at 1.75m higher than a ‘normal tide’ at Lowestoft, making it a one-in-200-year event.

A total of 18,000 people were evacuated and 2,500 properties were flooded and 7 cliff-top homes in collapsed in Hemsby, Norfolk. 223 businesses were flooded in Suffolk, with Lowestoft hit the hardest. Across East Anglia as a whole, recovery work cost the Environment Agency £10 million.
Case study

The Crown Inn, Snape, Suffolk

What happened?

The experience of Teresa Cook in the flooding of her business brings the realities of the devastating impacts severe weather can bring to SMEs like yours close to home.

Along with her husband, Teresa runs The Crown Inn, located in Snape, Suffolk. Flooding of the nearby River Alde as a result of the storm surge caused extensive internal damage to the property and killed many livestock outside, leaving both financial and emotional damage.

Despite the use of sandbags, 3ft of water engulfed the kitchen and 2ft in the bar. An enormous clean up and repair task ensued, taking 8 weeks just to dry the property out. In total the business was forced to close for 75 days, including the Christmas period. Insurance repayment was a lengthy process.

How did they adapt?

Since the devastating event, the business has ‘bounced back’, although the emotional ordeal of the event still lingers.

A total of £75,000 was made available from the Government’s post-surge repair grant, to be supplemented by about £50,000 or £60,000 of private funding.

River wall repairs have been carried out at Snape to make it more resilient to flood overtopping.

The Environment Agency funded research to help improve understanding of water velocities and levels in the Snape area of the estuary.

A survey was carried out in Snape to:
• determine who is prepared to help in a future emergency
• establish what equipment would be available
• identify people with medical or special needs to ensure appropriate help is available to them.

What were the benefits?

The work carried out to understand and reduce flood risk, as well as the preparation of emergency response plans of communication in the community, will help improve the resilience of businesses and the community to future events.

Taking on the adaptation challenge now will help your business to reduce the impacts of events such as the flooding in Snape. Although Snape is now better prepared for future weather events, planned adaptation (as opposed to reactive actions) would have helped to reduce emotional and economic costs.
What can you do?

You should treat adapting and preparing for extreme weather and climate change in a similar way to other business risks: by understanding and managing the costs and opportunities it represents.

**Internal actions**

The next section of this guide focuses on six areas of your business across which to consider the costs and opportunities. It gives you important practical actions to build climate resilience in each business area and links to where to find further information and advice.

1. Operations
2. Premises
3. Financial and Insurance
4. Markets
5. Staff
6. Logistics

**The bigger picture**

Where feasible, internal actions to lower your business risks should be aligned with wider strategic work to build resilience and lower risks across the East of England. Business leaders, local authorities and the third sector in the East of England all have a role to play.

Working strategically to make your business sector and the East of England as a whole more resilient will help develop the capacity of yourselves and others. You can support the development of an adaptation culture in the region through communications, networking with others, accessing learning opportunities, and sharing knowledge and examples of good practice.

The final section of this guide highlights some key information on how best to communicate climate change and extreme weather events to your customers and outlines some further support available in the East of England.

**Tools**

This document complements several tools developed as part of the Climate Ready Support Service (including the Business Resilience Healthcheck) to help your business increase resilience against extreme weather and adapt to climate change. Information and links to these tools can be identified throughout this document in blue outlined boxes.
Business continuity plans; emergency contacts and communications

**Business continuity plans**

- Creating a business continuity plan is essential to reduce the risk of a major business interruption significantly affecting the short and long term viability of your business. You should also test your plan regularly.

- Businesses using business continuity plans report the benefits of compiling the plan exceed the costs of producing it.

- Having a business continuity plan could reduce your insurance premiums and provide a good sales mechanism when bidding to potential customers. Some large businesses reduce their supply chain risk by requiring all suppliers to have a business continuity plan.

- Ensure staff (identified to contribute in the event of an emergency or major business interruption) are fully aware of their roles and responsibilities and trained where applicable.

“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”

**Emergency contacts and communications**

- Create a key contact list of the main stakeholders, emergency services, utilities, and local authorities your business will need to contact after a major business interruption.

- Prepare (and keep up-to-date) an emergency communication plan for employees and other key stakeholders, including customers and suppliers.

**Further information**

- Get more information on creating a business continuity plan using the Business Continuity Management Toolkit


**Business Continuity Management Toolkit**

The Business Continuity Management Toolkit was developed by the Cabinet Office. It covers a step-by-step process to create a business continuity plan, primarily targeted at SMEs.

2 Premises

Flood and extreme weather risk; utilities; maintenance; information technology and data back-up

**Flood and extreme weather risk**

- Visit the Environment Agency website and check whether your business premises are at risk of flooding. Flooding may occur from rivers, coastal, or surface water flooding.

- If your business is located in a flood risk area, take action to put in place flood resistance measures and sign up to the Environment Agency’s Flood Warning Service online at [https://www.gov.uk/sign-up-for-flood-warnings](https://www.gov.uk/sign-up-for-flood-warnings).

- Consider the implication of high temperatures on your buildings and business services. Several actions can be taken to reduce workplace temperatures (see page 22).

- Ensure all your staff are aware of company critical assets and where they should be relocated in the event of an emergency. If assets are at risk of flooding identify an alternative site and plan how to transfer them efficiently.

- When upgrading your premises, consider ways to make your property more resilient to severe weather. If your premises are damaged by an extreme weather event, think about re-instating it to a higher standard of resilience.

- Extreme weather may heavily disrupt your business if you cannot access the premises. Identify whether temporary alternative accommodation is available.

- Consider whether you have the equipment to clean up after a severe weather event.

- Consider sharing alternative suppliers, accommodation, premises for storing stock.
and equipment and weather warning systems with neighbouring businesses.

**Utilities**

- Water restrictions or interruption to water supply may impact your business. Consider alternative water supplies, such as installing rain water storage tanks. This can also save you money and help reduce your carbon footprint.

- Disruptions to electricity or gas supply may also impact your business and cause significant knock-on effects to those you supply products or services to. Essential business services should be supported by either an uninterruptible power supply (UPS) or a portable generator. Make sure you check how long the systems can supply power. You could also consider alternative power supplies such as solar or back-up generators.

- Ensure you know how to turn off the gas, electricity and water supplies to your business.

- Ensure key employees know how to divert communications in the event of an emergency, including whom to contact and how long the diversion will take to put in place.

**Maintenance**

- Have a regular maintenance schedule in place to ensure any small maintenance issues are rectified before they become a major issue. Maintaining your premises efficiently will help reduce the risk of potential business disruptions and any health and safety issues.

**IT and data back-up**

- All electronic data should be backed up regularly, ideally in real-time. Using an external storage centre or the cloud will help ensure the safe management of backed up data. Regularly check your data backups are complete and that data is correct.

- In the event of a business interruption, applications such as Dropbox and Google Drive will better enable your staff to collaborate on documents remotely.

- Ensure all your insurance policies, accounts documents, product specifications (software product keys, licensing agreements or serial numbers) and client details are electronically scanned and archived offsite.

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**Further information**

- To check your flood risk and for further flooding advice, including how to create a flood plan for your business, use the online Environment Agency services: https://www.gov.uk/prepare-for-a-flood/find-out-if-youre-at-risk

- For information on water availability consult the Environment Agencies Catchment Abstraction Management Abstraction Strategies (CAMS) for your area which show the water availability for each river catchment: https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process

15 Weathering the Storm
3 Financial and Insurance

Capital purchases, land and asset values; business interruption cover; policy excesses; business inventories; landlord’s insurance and post-disaster liability

**Capital purchases, land and asset values**

- Extreme weather events and climate change may have significant impacts on your land and asset values. Ensure you assess this risk when making large capital purchases with life expectancy in decades (e.g. buildings, land and plant equipment). Consideration should be given to operating specifications such as temperature, future flood risk, coastal change, water consumption and energy use.

**Business interruption cover**

- Comprehensively evaluate the level of cover provided by your insurance to make sure your business is insured for the correct value.

- Review your insurance each year to accommodate growth, capital expenditure and sales peaks.

- Ensure that your buildings and contents insurance covers flooding and storms.

- Ensure you have business continuity insurance that will cover you whilst you are unable to do business and 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 your affected customers return to do business.

**Policy excesses**

- Ensure you know the policy excess on your insurance and if there are any specific requirements. For example, if your premises are at potential flood risk, check whether requirements include sand bags, height of stock from floor level and so on.

- If your business has experienced increased premiums as a result of a loss, talk to your insurance company to check if there are any pro-active measures you can take on behalf of the business to reduce your premium or...
policy excesses. Examples include installing flood defences, developing business continuity plans and preparing a disaster recovery plan.

**Landlord’s insurance and post-disaster liability**

- Check with your landlord who is responsible for internal fixtures and ensure that any liability is covered by insurance.
- In the event of your premises being damaged, ensure procedures have been agreed with your landlord.
- 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 lease agreement and potential implications.

**Business inventories**

- Prepare an inventory of your assets, including machinery and equipment. This may include a digital recording of the premises inside and out and archiving the information offsite. This will enable information to be readily available for insurance claim purposes and enable quick replacement.

**Further information**

- Check with your own insurance broker for more information, or contact the British Insurance Brokers’ Association: [http://www.biba.org.uk](http://www.biba.org.uk)

- Further information on the types of insurance SMEs may need, including property, employees and financial risk can be found in the ABI document ‘Insurance for Small Businesses: A Guide To Protecting Your Business’: [https://www.abi.org.uk/~/media/Files/Documents/Publications/Public/Migrated/Liability/Insurance%20for%20Small%20Businesses%20guide%20to%20protecting%20your%20business.ashx](https://www.abi.org.uk/~/media/Files/Documents/Publications/Public/Migrated/Liability/Insurance%20for%20Small%20Businesses%20guide%20to%20protecting%20your%20business.ashx)

- There is a variety of insurance cover available to protect your business in different circumstances, so find out from an insurance professional what options are available and what you may need. For example, engineering insurance to repair/re-instate machinery and computers; goods-in-transit insurance to cover goods whilst 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.

- Further advice can be found from the Federation of Small Businesses: [http://www.fsb.org.uk](http://www.fsb.org.uk)
4 Markets

Impact of weather on sales; customer dependence; business opportunities

**Impact of weather on sales**

- If your sales are already influenced by weather-related or seasonal variations, a changing climate may represent a further risk or opportunity. Identify what type of weather events impact sales and to what degree - determining any critical thresholds where possible.

**Business opportunities**

- Investigate other ways in which climate change may impact your business. Identifying potential risks and opportunities will allow you to:
  
4) Reduce the risk of competitors adopting an ‘early mover advantage’.

3) Identify opportunities to **diversify into new markets or products** arising from changes either on the supply side (if production processes are more viable in the new climate) or on the demand side (if customer preferences change). There are growing market opportunities for the provision of adaptation technologies, goods or services.

**Customer dependence**

- Your business may be at risk if one of your customers suffers a major disruption and is unable to trade for a number of months. Make efforts to diversify and investigate if your customers have similarly assessed their business resilience and have continuity plans in place.

1) Identify if your **business model** will need refining. This may include research and development; assets; markets.
Further information
• Use the BACLIAT and Climate Prepared tools

BACLIAT: Business Areas Climate Impact Assessment Tool
BACLIAT provides a simple process for you to assess the potential impacts of climate change on key areas of your business, considering both threats and opportunities. This helps feed into your strategic planning, product development and marketing approaches.

http://climateuk.net/sites/default/files/BACLIAT_0.pdf

Climate Prepared
Climate Prepared is an online, interactive resource designed specifically for tourism businesses to build climate resilience. Tourism businesses are often small and highly climate sensitive. This tool helps tourism businesses develop robust continuity plans and gives guidance on what preventative actions to take. Originally developed by Climate South East and Climate South West, this tool is now hosted by Climate UK.

http://www.climateprepared.com
5 Staff

Attendance and flexible working; risks to employees; legal requirements

**Attendance and flexible working**

- Staff attendance may be affected during extreme weather. Consider other ways of working, such as home working, remote working and providing flexitime options to improve your business productivity and continuity in the event of a major business interruption.

- To ensure your business is not adversely affected by the temporary loss of a key employee, make sure critical tasks (and dates where applicable) are centrally recorded and updated when appropriate. Ensure all critical functions within your business can be carried out by more than one employee.

- Having a list of all employee contact details is important to inform your employees in the event of denial of access to the premises or in the event of an emergency.
Risks to employees

- Assess the risk of extreme temperatures to the health and safety of your employees and your business productivity. Extreme temperatures can affect employees with pre-existing medical conditions including: heart disease, epilepsy, high blood pressure and diabetes. Identify individuals with medical conditions and raise awareness of the impact of extreme temperatures amongst your staff.

- Consider the risk to your employees health and safety presented by flooding and the risk to your business from employees living in areas which may be at flood risk.

Legal requirements

- Ensure that you have identified your legal obligations and understand your liabilities with respect to working conditions in the workplace.

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

Further information

- The NHS provides advice on the risks of heatwaves and how to prepare: http://www.nhs.uk/Livewell/Summerhealth/Pages/Heatwave.aspx

- The HSE provides information on workplace temperature requirements and advice on managing them: http://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 it is too expensive to install, 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.

21 Weathering the Storm
Supply chains and deliveries; severe weather driving policy

Supply chains and deliveries

• If your business is dependent on goods or services it is essential you assess the risk of failure to deliver and take steps to reduce or eliminate this risk.

• Weather-related disruptions may affect your supply chains in both a national and global context. Such conditions may affect:
  - delivery from suppliers
  - delivery of your businesses products or services
  - the ability of your customers to visit your premises
  - the ability of staff to get to work.

• Actions to reduce the risk include:

  1) **Multiple supplier agreements**: multi-sourcing all critical goods may reduce costly delays caused by the primary supplier suffering a major business disruption.

  2) **Increased stock levels**: ensure you have enough ‘buffer’ stock to maintain operations in the events of your supply chain breaking down.

  3) **Sourcing goods more locally**: Locally sourcing goods and materials increases the resilience of your businesses supply chain. It also reduces your business’ environmental impact and benefits the local economy. Consider sharing suppliers with similar businesses in your area.
Severe weather driving policy

- Ensure you have a severe weather driving procedure to reduce the risks of employee injury on company business. Consider using teleconferences for meetings when you cannot deliver your service in person.

Further information

- Use the Adaptation Wizard and Supply Chains adaptation guidance

Adaptation Wizard

The Adaptation Wizard takes you through a 5 step process which helps you to:

- assess your organisation’s vulnerability to current climate and future climate change
- identify options to address your organisation’s key climate risks
- help you to develop and implement a climate change adaptation strategy

The tool was originally developed by the UK Climate Impacts Programme (UKCIP) and subsequently updated and released by the Environment Agency in 2010.

http://climateuk.net/sites/default/files/Adaptation%20Wizard.pdf

“72% of organisations surveyed by the Carbon Disclosure Project identified a supply chain risk related to changes in climate with the potential to significantly affect their business or revenue.”

Supply Chains adaptation guidance

The supply chains adaptation guidance will help you understand and manage the risks that extreme weather and a changing climate present to your supply chains. It can be used as part of a wider look at your climate risks using the Adaptation Wizard.

The guidance provides a 5-step framework for businesses of all sizes, with special sections to address particular issues for small to medium enterprises (SMEs).

Step 1: Is climate change a material issue?

Step 2: Plan to respond

Step 3: Assess risks and opportunities

Step 4: Prioritise and identify actions

Step 5: Manage your risks

http://climateuk.net/resource/supply-chains-adaptation-guidance

23 Weathering the Storm
Agricultural and horticultural rural business

In addition to the potential impacts that are common to all businesses, the agricultural and horticultural sector faces some additional challenges. These are directly affected by climate, and extreme weather events can have a significant impact. Ask yourself how your business may be affected both negatively and positively by the following potential changes in the East of England:

- Increased rain and increased flood risks.
- Reduction in quality and quantity of grass caused by lower rainfall and higher temperatures during summer (which may require feed for livestock to be supplemented).
- Reduced water availability (may affect yields of fruit, vegetables and cereals and irrigation availability).
- Higher temperatures and increased carbon dioxide in the atmosphere (some crops may flourish).
- Changing climate conditions (could make it possible to grow alternative crops, including crops for energy).
- Increase in storm events could provide opportunities for increased water storage for use during water shortages.

Further information

- Farming Futures has produced a series of fact sheets containing sector-specific advice on climate change, explaining the likely impacts, opportunities and challenges on each farming sector and advice on ways to adapt: [http://www.farmingfutures.org.uk/resources/factsheets](http://www.farmingfutures.org.uk/resources/factsheets)
- The Farming Advice Service (FAS) is in partnership with Climate Ready to integrate climate resilience into their advisory services: [http://www.farmingadviseservice.org.uk/events/events/](http://www.farmingadviseservice.org.uk/events/events/)
• Higher summer temperatures and reduced cloud cover (could increase the risk of heatstroke and sunburn for livestock in open pasture).
• Higher average winter temperatures (could reduce problems for livestock in freezing weather).
• Higher winter temperatures and fewer days of freezing weather (affects the vernalisation of winter cereals and the formation of flower buds on some fruit trees).
• Higher temperatures (could increase the risk of pests and diseases in arable and horticultural crops).
• Higher temperatures and reduced cloud cover (could increase the demand for outdoor leisure and tourism, which could create opportunities for diversification).

Case study

The flooding of Deepdale Farm, Norfolk

Deepdale Farm in Norfolk suffered considerable business interruption as a result of flooding caused by the storm surge on the evening of the 5th December 2013. The sea wall around part of the farm was overtopped by the sea and then proceeded to collapse in four or five places.

• Sea water inundated 100 acres of land (60 of which were planted with crops), 200 acres of a neighbour’s land, 400 acres of the nearby nature reserve at the Holkham Estate, as well as nine local houses.
• In total, 1000 acres of Deepdale Farm’s land have been impacted since the sea water has contaminated irrigation water on the land.
• The inundation damaged a new pump including the controls and the hut within which it is stored, the cost for the pump and controls alone are estimated at around £39500.

The level of the sea wall would have been sufficient for a ‘normal’ storm event but this event was recorded as being worse than that of 1953. Since the event, the Environment Agency has carried out repairs to the sea wall, but the height of the sea wall still remains a concern to face storm surge events of a similar magnitude.
Overcoming the challenges

Communicating around extreme weather

Given the impact that extreme weather can have on your operations, customers or members, it may also be a time when people look to you for answers. The immediate focus for communications around extreme weather is likely to be on the risks, impacts and advice for coping. Being able to provide straightforward responses can be a boost to your relationships.

Customers may ask “is this happening more often?” and “will this happen every year?”. The UK has variable weather and it’s not possible to say that a particular weather event is directly caused by climate change, however the underlying trends in increasing risks are clear and set to continue. It is therefore key that you, as a business, know the basics on trends for questions on preparedness.

Let your customers know how you are adapting your business to deal with the risks and how you are doing your bit to reduce the longer-term risk of climate change by cutting down emissions.

Identifying barriers and overcoming them

Taking action to build resilience is often a challenge. Identifying potential barriers and constraints for progressing adaptation within your organisation at the outset, considering how they might be overcome, and maximising opportunities to better enable the adaptation process, will help you to build the resilience more effectively.

Understand how your organisation works and how changes are usually implemented. Consider who needs to be involved, the context of your work, relevant regulations or legislation that influence your activities, performance targets and so on. Use the information in this guide, particularly section 2 on “The Business Case for Adaptation” and section 3 “What could happen?” to support you in making the case for implementing adaptation actions.

Signpost other information sources, you don’t need to be the expert:

- Royal Society animation on climate change: [https://www.youtube.com/watch?v=n4e5UPu1co0&feature=youtu.be](https://www.youtube.com/watch?v=n4e5UPu1co0&feature=youtu.be)
- Energy and Climate Intelligence Unit guides:
  - ‘What is climate change?’: [http://eciu.net/briefings/climate-science-the-basics/what-is-climate-change](http://eciu.net/briefings/climate-science-the-basics/what-is-climate-change)
  - ‘Has climate change stopped?’: [http://eciu.net/briefings/climate-science-the-basics/has-climate-change-stopped](http://eciu.net/briefings/climate-science-the-basics/has-climate-change-stopped)
Windows of opportunity for implementing adaptation

Look for ways of incorporating climate response strategies into mainstream activities, and consider potential synergies and conflicts with other strategies and policies. The costs of adapting to climate change can be minimised if adaptation is built into existing systems early on.

Finally, although recent extreme weather events, such as the winter 2013/14 storms and floods, have caused enormous disruption to business, exposure to these events is dramatically raising awareness of the need to adapt. This is increasing:

- strategic work and institutional support for adaptation
- the tools and support available for businesses like yours
- staff and customer’s awareness of the importance of adaptation measures.

Such action can provide an opportunity to realign your current business plans and operations to incorporate adaptation measures with greater support.

As more businesses like yours take on the adaptation challenge by implementing the simple measures highlighted in this guide, they will help strengthen the overall resilience of your business sector. Businesses can support the development of an adaptation culture in the region through communications, networking with others, accessing learning opportunities, and sharing knowledge and examples of good practice.

Maximise drivers
- increased awareness following exposure to a recent weather event
- leadership
- a desire to seek new opportunities
- need to ensure sustainability of new development, product or practice
- a desire to build and maintain reputation as a company that takes environmental issues seriously
- need to comply with legislation or statutory guidance

Minimise barriers
- a preoccupation with short term survival
- a lack of awareness or an unsupportive institutional environment.
- scepticism amongst colleagues
- conflicting priorities and time pressures
- lack of technical information or limited availability of information
- resistance to changing what an organisation does, and how it does it

Factor adaptation into:
- the early steps of planning new developments
- infrastructure that is being upgraded anyway
- routine maintenance that is being conducted
- plans that come up naturally for review
- your routine work plan rather than being dealt with as an emergency situation
## Further Support

<table>
<thead>
<tr>
<th>Who</th>
<th>How can they help?</th>
<th>Contact Details</th>
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</thead>
<tbody>
<tr>
<td>Association of British Insurers (ABI)</td>
<td>ABI provide advice on insurance issues and have a range of insurance publications for SMEs.</td>
<td><a href="http://www.abi.org.uk">http://www.abi.org.uk</a> Tel: 020 7600 3333</td>
</tr>
<tr>
<td>British Chambers of Commerce (BCC)</td>
<td>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.</td>
<td><a href="http://www.britishchambersonline.org.uk">http://www.britishchambersonline.org.uk</a> Tel: 020 7654 5800</td>
</tr>
<tr>
<td>British Insurance Brokers’ Association (BIBA)</td>
<td>Contact your own insurance broker for advice, alternatively contact BIBA who can help you find a member broker.</td>
<td><a href="http://www.biba.org.uk">http://www.biba.org.uk</a> Tel: 0870 950 1790</td>
</tr>
<tr>
<td>Business in the Community (BitC)</td>
<td>Business in the Community 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.</td>
<td><a href="http://www.bitc.org.uk">http://www.bitc.org.uk</a> Tel: 020 7566 8650</td>
</tr>
<tr>
<td>Carbon Trust</td>
<td>Provides specialist support to business and the public sector to help cut carbon emissions, save energy and commercialise low carbon technologies</td>
<td><a href="http://www.carbontrust.com">http://www.carbontrust.com</a> Tel: 020 7170 7000</td>
</tr>
<tr>
<td>Climate UK</td>
<td>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.</td>
<td><a href="http://www.climateuk.net">http://www.climateuk.net</a></td>
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<td>Confederation of British Industry (CBI)</td>
<td>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</td>
<td><a href="http://www.cbi.org.uk/business-issues/energy-and-climate-change">http://www.cbi.org.uk/business-issues/energy-and-climate-change</a> Tel: 0207 379 7400</td>
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<tr>
<td>Construction Industry Research and Information Association (CIRIA)</td>
<td>CIRIA provide information on the repair and restoration of buildings following floods.</td>
<td><a href="http://www.ciria.org/flooding">http://www.ciria.org/flooding</a></td>
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<tr>
<td>Energy Saving Trust</td>
<td>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.</td>
<td><a href="http://www.energysavingtrust.org.uk">http://www.energysavingtrust.org.uk</a></td>
</tr>
<tr>
<td>Environment Agency (EA)</td>
<td>The EA 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. See Climate Ready, the EA’s support service for businesses and other organisations:</td>
<td><a href="http://www.environment-agency.gov.uk">http://www.environment-agency.gov.uk</a> Tel: 03708 506 506</td>
</tr>
<tr>
<td>Farming Futures</td>
<td>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 containing sector-specific advice on climate change explaining the likely impacts, opportunities and challenges to each farming sector and advice on ways to adapt:</td>
<td><a href="http://www.farmingfutures.org.uk">http://www.farmingfutures.org.uk</a> Tel: 01223 342 313</td>
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<td></td>
<td><a href="http://www.farmingfutures.org.uk/resources/factsheets">http://www.farmingfutures.org.uk/resources/factsheets</a></td>
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<tr>
<td>Federation of Small Businesses (FSB)</td>
<td>The FSB is the UK’s largest campaigning pressure group promoting and protecting the interests of the self-employed and owners of small firms.</td>
<td><a href="http://www.fsb.org.uk">http://www.fsb.org.uk</a> Tel: 0808 2020 888</td>
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<td>Institution of Occupational Safety and Health (IOSH)</td>
<td>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.</td>
<td><a href="http://www.iosh.co.uk">http://www.iosh.co.uk</a> Tel: 0116 257 3199</td>
</tr>
<tr>
<td>Met Office</td>
<td>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.</td>
<td><a href="http://www.metoffice.gov.uk">http://www.metoffice.gov.uk</a> Tel: 01392 885680</td>
</tr>
<tr>
<td>National Farmers Union (NFU)</td>
<td>The NFU champions British farming and provides professional representation and services to its members.</td>
<td><a href="http://www.nfuonline.com">http://www.nfuonline.com</a> Tel: 024 76858500</td>
</tr>
<tr>
<td>National Flood Forum</td>
<td>A charity providing support and advice to communities and individuals that have been flooded or are at risk of flooding. The Blue Pages is a directory of builders, suppliers and other service providers who install or provide information on flood protection and resilience products: <a href="http://www.bluepages.org.uk">http://www.bluepages.org.uk</a></td>
<td><a href="http://www.nationalfloodforum.org.uk">http://www.nationalfloodforum.org.uk</a> Tel: 01299 403055</td>
</tr>
<tr>
<td>Natural England</td>
<td>An independent public body that works to protect and improve England’s natural environment.</td>
<td><a href="http://www.naturalengland.org.uk">http://www.naturalengland.org.uk</a> Tel: 0845 6003078</td>
</tr>
<tr>
<td>The Prince’s Mayday Network</td>
<td>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.</td>
<td><a href="http://www.maydaynetwork.com">http://www.maydaynetwork.com</a></td>
</tr>
<tr>
<td>UK Climate Impacts Programme (UKCIP)</td>
<td>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 (see p.20) and Adaptation Wizard (see p.24) for businesses, and CLARA for business advisors.</td>
<td><a href="http://www.ukcip.org.uk">http://www.ukcip.org.uk</a> Tel: 01865 285717</td>
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</tbody>
</table>
References


For nearly 20 years Sustainability East has been a dynamic driving force behind the East of England’s sustainability agenda. As an established social enterprise, it is our mission to focus our activity to have the greatest impact. Our goal is to accelerate the transformation to sustainability, and reinvest profit for the benefit of society.