Industry Insights

Climate change risks and adaptation in the Scottish food & drink wholesale industry

Scottish Wholesale Association
THE COLLABORATIVE VOICE OF FOOD AND DRINK

Adaptation Scotland
supporting climate change resilience

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Adaptation Scotland provides advice and support to help Scotland be prepared and resilient to the effects of climate change. The programme delivers capacity-building, collaborations and advisory services to help organisations, businesses and communities to take adaptation action.

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Introduction

The Scottish food and drink wholesale sector operates in an increasingly challenging climate, with rising temperatures, extreme weather events, and shifting consumer demands, creating both challenges and opportunities for wholesalers. As supply chains, logistics, and infrastructure come under growing pressure, businesses must consider how to adapt and build resilience.

This resource is designed to support wholesalers in understanding the risks posed by climate change and identifying practical actions to protect operations. It outlines key climate trends affecting the sector, potential disruptions, and steps businesses can take to strengthen resilience. By preparing for climate impacts now, wholesalers can safeguard supply chains, manage costs, and explore new opportunities in a changing market.

This resource was developed in collaboration with the Scottish Wholesale Association (SWA) and its members. Their valuable insights on the practical challenges and opportunities businesses face when addressing climate-related risks have directly informed this guidance.

How has Scotland's climate changed?

Over the last few decades Scotland has experienced a warming trend, shifting rainfall patterns, and rising sea levels. Find out more about how Scotland's climate has changed on the Adaptation Scotland programme website.

Scotland's **10 warmest years** on record have all occurred since 1997. The average temperature in the last decade (2014-2023) was **1.02°C warmer** than the 1961-1990 average, and the warmest year on record was **2022**.

There has been an **increase in rainfall** over Scotland in the past few decades. The annual average rainfall in the last decade (2014-2023) was **10% wetter** than the 1961-1990 average, with winters **29% wetter**.

Mean **sea level** around the UK has risen by approximately **18.5cm** from the start of the 20th century and the **rate of sea level rise has increased over the last 30 years, and continues to accelerate**.

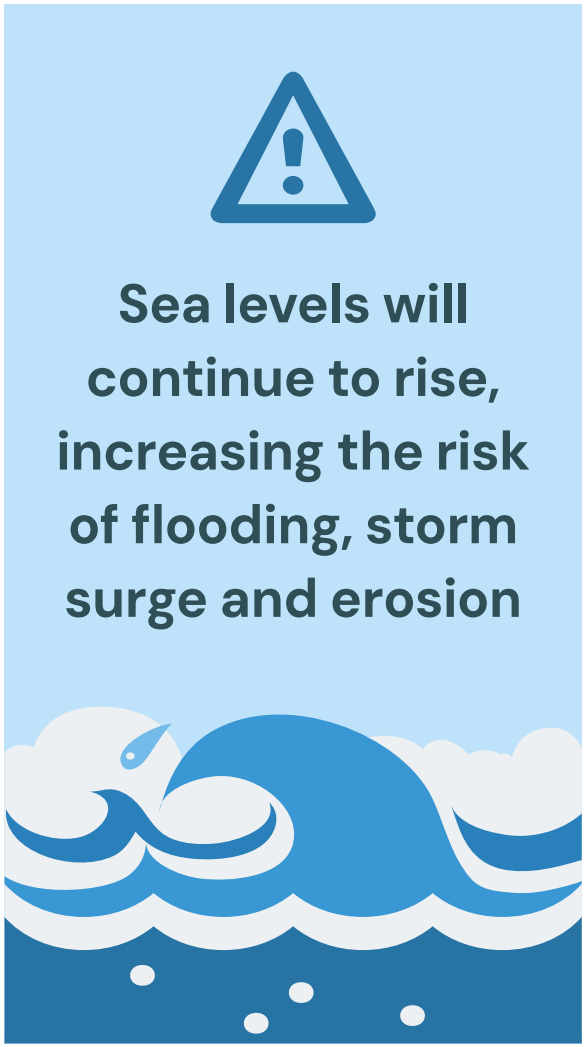
Since 2015 when storm naming convention began, Scotland has been impacted by at least **60 named storms** (when Met Office amber or red warnings for all/part of the UK are issued).

How is Scotland's climate projected to change in the future?

Scotland is expected to experience warmer, wetter winters; hotter summers, with prolonged dry periods; and increasingly frequent extreme weather events. You can explore climate projections for your area on the Met Office's Climate Service.

Scotland will experience hotter, drier summers, with greater extremes

Scotland will experience warmer, wetter winters, with more intense rainfall events



Sea levels will continue to rise, increasing the risk of flooding, storm surge and erosion

Specific climate risks facing the Scottish wholesale industry

Rising temperatures

Warmer conditions could impact food storage, transportation, and refrigeration needs. Higher temperatures can make it harder to keep food at safe temperatures, leading to spoilage or waste. For example, refrigerated trucks may struggle to maintain low temperatures during hot weather, and storage facilities may need to increase energy use to stay cool, both of which can raise costs and impact the quality of products.

Increased rainfall and flooding

More intense rainfall and rising sea levels increase flood risks, including in supply chain hubs and warehouse locations. Flooding can disrupt transportation routes, damage goods, and halt operations in key areas like warehouses and distribution centres. In addition, higher sea levels can lead to coastal flooding, affecting ports and critical infrastructure used for importing and exporting goods. This can lead to delays, higher costs, and loss of inventory, putting significant pressure on businesses.

More frequent extreme weather events

Storms, heatwaves, and cold snaps may disrupt logistics and energy supplies. For example, storms can damage transportation networks, making it difficult to move goods on time. Heatwaves can cause power outages by overloading electricity grids, while cold snaps may freeze transportation routes or disrupt heating systems in storage facilities. These disruptions can lead to delays in delivery, increased operational costs, and even stock loss, all of which can have a direct impact on business operations.

Supply chain risks

Wholesalers often rely on suppliers both within the UK and internationally, but this global reach comes with added risks. Severe weather events can disrupt cargo shipments, leading to delays at ports and longer lead times for deliveries. High winds, heavy rainfall, and extreme temperatures can damage goods in transit, particularly fresh produce and perishable items. In addition, climate change is affecting agricultural production worldwide. Prolonged droughts, unseasonal frosts, and extreme heat can reduce crop yields, impact livestock health, and drive up prices.

Adaptation actions for wholesalers

People

Severe weather planning: Having clear contingency plans for events like flooding, droughts, heatwaves, or strong winds enables wholesalers to respond quickly to protect people, buildings, and products. This may include site-specific response protocols, training for staff, and early-warning systems such as the SEPA Floodline alert service, and following the Severe Weather: Fair Work charter principles.

Risk assessment: Working alongside staff working in all areas and roles within the business, undertake a full site survey to identify any risks which may be exacerbated by climate change impacts, using the Climate Hazards and Resilience in the Workplace site risk assessment checklists.

Vulnerable customers and communities: Prioritising distribution to locations most affected by severe weather, or those likely to be affected by a forthcoming severe weather event, can ensure that locations that may be temporarily 'cut off', particularly those in rural and island communities can still access vital goods from wholesalers.

Premises

Flood-resilience measures: Installing flood protection measures such as non-return valves, flood doors, and water-resistant fixtures can help older buildings withstand more frequent and intense storms. These upgrades help reduce downtime and repair costs.

Heat management: Retrofitting passive cooling and ventilation technologies can support heat and humidity management. External shading fixtures, such as roof overhangs, and green roofing, can also support heat and humidity management in both new and existing buildings.

Raised and protected storage: Elevating stock from the ground is a simple, low-cost measure to reduce damage from any flood water intrusion. Ensuring that high value and business-critical assets, such as IT services, are not located in areas at risk of flooding (e.g. basements) minimises the flood risks posed.

Using sensors to monitor humidity: These can help detect potential issues early, allowing businesses to take action before stock quality is affected. Increasing stockpiles of non-perishable goods ahead of forecasted storms ensure continuity of supply, helping wholesalers meet demand even if deliveries are temporarily delayed.

Building maintenance: The impact of climate change on both modern and historic buildings will depend on their condition and how well they are being maintained. This guide from Edinburgh World Heritage helps you to develop a maintenance plan, and includes a checklist and helpful resources.

Products

Supply Chain Resilience: Relying on just one supplier can be risky, especially if severe weather or other problems affect that area. By working with suppliers in different regions, wholesale businesses can reduce the risk of running out of stock when disruptions happen. It is not just about having more suppliers, collaborating with and supporting suppliers to build their own resilience to climate shocks is also crucial. Wholesalers can work with suppliers to improve their adaptation planning, share ideas for managing risks, and encourage more climate-friendly ways of working. A stronger supply chain benefits everyone, making sure goods keep moving even when unexpected events occur.

Investing in energy-efficient refrigeration: Upgrading to more energy-efficient refrigeration and freezer units can help cut electricity bills and lower greenhouse gas emissions. It also helps keep food fresh and safe, even during hot weather, by making sure cooling systems can cope with rising temperatures.

Processes

Improving logistics flexibility: Extreme weather and other disruptions can make it difficult to stick to the usual delivery routes. Wholesalers can use adaptive route management to keep goods moving. This means using real-time traffic and weather data to adjust routes on the go, helping drivers avoid flooded roads, road closures, or severe weather conditions. During disruptions, it is also important to prioritise deliveries based on urgency and customer needs. Ensuring essential supplies reach key customers first, such as hospitals, care homes, or retailers with perishable goods, can help minimise wider impacts.

Upgrading vehicle fleet: To keep deliveries running smoothly in all weather conditions, wholesalers can make practical upgrades to their vehicle fleets. Switching between winter and summer tyre profiles ensures better grip on the roads, reducing the risk of accidents during extreme heat, heavy rain, or icy conditions. Tinted windows and improved ventilation can help regulate temperatures inside the vehicle, making long journeys more comfortable for drivers and reducing reliance on air conditioning, which in turn improves fuel efficiency.

Early warning alerts and systems: Planning ahead is also key. Incorporating the SEPA flood map into logistics systems allows wholesalers to identify high-risk areas and reroute deliveries as needed, helping to prevent delays and protect stock from damage.

Place

Local networks of businesses: Scottish wholesalers can strengthen their resilience to climate impacts by building connections with their local business and community networks. Engaging with neighbouring businesses, nearby households, local Business Improvement Districts (BIDs), and networks such as the Scottish Wholesale Association, can provide valuable support before, during, and after extreme weather events. These networks are often among the first to share alerts and experiences of how businesses can respond to extreme weather and near-miss events, offer practical help, or coordinate a local response in the face of disruptions like flooding or transport closures.

Collaborate with a regional adaptation partnership in your area: Wholesalers should check whether a regional adaptation partnership exists in their area. These partnerships bring together local authorities, businesses, and other stakeholders to plan for climate change impacts. They provide tools, resources, and funding to support local adaptation, as well as opportunities to feed into decision-making on infrastructure and risk management. The Scottish Government has committed to the expansion of regional partnerships to cover all areas of Scotland by 2029.

Case study 1: Greencity Wholefoods

Business profile

Greencity Wholefoods is a wholesaler of food and drink founded in 1978, based in Glasgow's vibrant East End. It is a worker cooperative that supplies businesses in Scotland, Ireland and the northeast of England with a range of over 5,000 ethical and eco-friendly products.

Climate impacts faced

Storm Eowyn hit Scotland hard on Friday 24th January 2025 and news of the approaching storm really caught the team's attention collectively on Wednesday 22nd. By Thursday morning, a red weather warning had been issued by the Met Office, with urgent advice not to go out. Greencity convened an emergency meeting that day to decide how to negotiate this situation as a business during the next 48hrs and beyond.

There was no choice but to hold all deliveries due to go out, so the team rescheduled deliveries for the following week in order to uphold their service to customers. They also took the decision to shut the business on the Friday for the safety of staff and visitors alike and rolled out communication with customers by phone, email and on social media channels about the action Greencity had decided to take.

Adaptation action taken

As a result of that severe weather situation, and knowing that due to climate change such events may be more frequent, Greencity has devised a resilience action plan to be better prepared:

- Review projected local climate impacts
- Identify earlier any potential weather threats to delivery schedules
- Meet with the Transport Manager to discuss affected routes and viable solutions
- Call an emergency briefing with affected teams: warehouse, drivers, sales, marketing
- Plan the rescheduling and prioritisation of orders and deliveries

- HR to organise team resources and shift changes
- Communicate the changes to customers
- Debrief with the Operations Team to facilitate continuous improvement in emergency business continuity planning

Result of the action

By implementing this plan, Greencity has strengthened its ability to respond effectively to extreme weather, reducing disruption while prioritising staff and customer safety. The structured approach ensures continuous improvement in handling future climate-related challenges.

> **"When it became apparent that Storm Eowyn posed not just a significant threat to our ability to deliver, but also to life, we kicked into action and came together to plan around it."**
>
> Leigh Galletly, HR Manager

Case study 2: Bidfood

Business Profile:

Bidfood is a food, drink and catering supplies wholesaler operating in Scotland and across the rest of the UK. They serve over 40,000 foodservice customers including hotels, restaurants, pubs, prisons, care homes, hospitals, schools and universities.

Climate Impact/s Faced

The main short-term climate-related risk Bidfood has identified is disruptions to deliveries, primarily due to extreme weather events such as storms and flooding. These have the potential to cause road closures, affecting delivery times and high winds can impact HGVs carrying out their deliveries and supply chain operations. Intense rainfall and storms has also caused localised flooding.

Adaptation Action Taken

To increase resilience, Bidfood holds periodic risk meetings to capture and mitigate evolving risks such as heavy rain and flooding affecting their deliveries. They have also implemented rainwater harvesting in some depots to reduce demand on mains water supply, whilst reducing demand on local drainage systems. Additionally, they focus on clearing nearby drainage channels to minimise flood risk and reuse grey-water for truck washing in some locations.

Result of the Action

These actions help Bidfood minimise the impact of climate-related disruptions, particularly in maintaining supply chain stability. Rainwater harvesting and grey-water reuse contribute to sustainability efforts while also reducing environmental risks like water pollution and flooding. By proactively addressing these challenges, Bidfood strengthens its resilience to climate-related disruptions and enhances its long-term operational sustainability.

> **“Climate change poses many challenges to businesses – operational and financial impacts from extreme weather being just part of a bigger picture of change that businesses need to understand and respond to. Our customers rely on us delivering a reliable service, so taking action to mitigate the impacts of these operational challenges, is crucial.”**
>
> Julie Owst, Head of Sustainability

Economic opportunities

New business opportunities

Investing in climate resilience can also open up new business opportunities. For example, Cleone Foods in Birmingham took proactive steps such as installing solar panels with battery storage, upgrading drainage and flooring to reduce flood damage, and purchasing snow-clearing equipment to support the local community. These measures improved their reliability, helped them secure a new supermarket contract, and led to an 11% increase in sales. By strengthening their resilience, businesses can enhance their reputation, build stronger relationships with customers and suppliers, and create opportunities for growth.

Insurance and financial support

Check your insurance covers your business for a range of eventualities connected to weather-related disruptions. Always speak to a qualified insurance broker to identify the right insurance for your business. For more information on insurance, please refer to the Flood Insurance Directory.

Grants and finance

Some government schemes may offer grants or low-interest loans to help businesses invest in climate resilience, such as upgrading equipment or protecting properties. Taking advantage of these options can reduce financial risks and help businesses recover more quickly after disruptions. Some adaptation actions may be funded under mitigation, net zero or green grant schemes. Find funding via Find Business Support.

Additional resources

SME Resilience Checklist

The Adaptation Scotland programme's SME Resilience Checklist is a practical tool designed to help businesses, including wholesalers, assess their vulnerability to climate-related risks and take practical steps to adapt. This checklist covers a range of areas where businesses can take action from supply chain management to physical infrastructure and workforce planning.

For wholesalers, this checklist is an essential resource to help identify and address climate-related risks that could impact day-to-day operations. By working through the checklist, businesses can uncover potential gaps in their current practices and take proactive steps to reduce risks such as flooding, extreme weather disruptions, and supply chain volatility.

The checklist provides a clear, step-by-step framework, allowing wholesalers to prioritise actions that will improve resilience and ensure long-term sustainability in the face of climate change.

Building resilient supply chains

The Building Resilient Supply Chains resource from the We Mean Business Coalition provides practical guidance for businesses on strengthening supply chain resilience in the face of climate change.

It highlights risks from extreme weather and climate-related disruptions and outlines actions companies can take to assess vulnerabilities, build supplier partnerships, and integrate climate adaptation into procurement and risk management processes. Aimed at companies of all sizes, it supports long-term business continuity.

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Further information

For more information about the Adaptation Scotland programme:

Visit: **adaptation.scot**

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