ARDS AND NORTH DOWN BOROUGH COUNCIL

4 February 2025

Dear Sir/Madam

You are hereby invited to attend a hybrid meeting (in person and via zoom) of the Corporate Services Committee of Ards and North Down Borough in the Council Chamber, 2 Church Street, Newtownards and via Zoom on **Tuesday 11 February 2025 commencing at 7pm**.

Yours faithfully

Susie McCullough
Chief Executive
Ards and North Down Borough Council

A G E N D A

1. Apologies

2. Declarations of Interest

3. Deputation – NI Water - plans for 2025

Reports for Approval

4. ANDBC Data Strategy (Report attached)

Reports for Noting

5. Mid-way review of the Big Plan (Community Plan) for Ards and North Down (2017-2032) (Report attached)

6. Budget Reports:
   a) Strategic Budget Report Q3 (Report attached)
   b) Prudential Indicators & Treasury Management 2024/25 Q3 (Report attached)

7. Response to Notion of Motion:
   a.) Notice of Motion 643 – Rise in National Insurance Payments (Report attached)
   b.) Notice of Motion 642 - Proposed closures of Newtownards and Bangor Post Offices (Report attached)

8. Any other notified business

Circulated for Information:
a.) UK National Risk Register (Report attached)

ITEMS 9 – 13 ***IN CONFIDENCE***

Reports for Approval

9.   Renewal of Licence to Ulster Bank at the Parade, Donaghadee (Report attached)

10.   Request from QMAC Construction Limited to use part of Hibernia Street South Carpark- extension of licence (Report attached)

11.   Renewal of Lease - Millisle Lagoon and Beach Park- Map revision (Report attached)

12.   Civic Office Site selection process (Report attached)

Reports for Noting

13.   Sale of land Hamilton Road, Bangor (Report attached)

MEMBERSHIP OF COPORATE SERVICES COMMITTEE

Alderman Graham	Councillor Moore
Alderman McRandal	Councillor Gilmour
Alderman Smith	Councillor Kennedy
Alderman Brooks	Councillor Thompson
Alderman McAlpine	Councillor Cochrane (Vice Chair)
Alderman McIlveen	Councillor W Irvine
Councillor Chambers	Councillor McCracken
Councillor S Irvine	Councillor Irwin (Chairman)

Unclassified

ITEM 4

Ards and North Down Borough Council

Report Classification	Unclassified
Exemption Reason	Not Applicable
Council/Committee	Corporate Services Committee
Date of Meeting	11 February 2025
Responsible Director	Director of Corporate Services
Responsible Head of Service	Head of Strategic Transformation and Performance
Date of Report	09 January 2025
File Reference	'-
Legislation	'-
Section 75 Compliant	Yes ☒　　No ☐　　Other ☐ If other, please add comment below:
Subject	ANDBC Data Strategy
Attachments	Appendix 1 - ANDBC Data Strategy

As part of our Strategic Transformation and Efficiency Programme (STEP), the Council committed to developing a Digital Strategy (a plan that outlines how we will invest in digital technology to make a wide range of Council services work better for staff, residents and partners).

The Strategy was approved by Council in April 2024. One of the five principles of the Strategy was 'Better Connected', which requires us to 'explore and exploit opportunities for collaboration, ensuring we make best use of technology to enhance innovation and the overall effectiveness of Council'.

One of the highest priority projects associated with this principle was the establishment a comprehensive council-wide data strategy aimed at guiding staff on data sharing, storage, collaboration, and more.

Effective and efficient data management is essential for service delivery in all public authorities. The information and data we create, manage, and use should provide a resilient, reliable foundation to improve our services, reduce costs and improve

Not Applicable

compliance to our regulatory and legislative requirements. Data and information are the lifeblood of any organisation.

The purpose of this strategy is to clearly communicate the importance and responsibilities for excellent information and data management. It sets out a clear framework, direction, and plan to improve data quality and accessibility.

RECOMMENDATION

It is recommended that Council approve the attached Data Strategy.

Contents

1. Introduction

Effective and efficient data management is essential for service delivery in all public authorities. The information and data we create, manage, and use should provide a resilient, reliable foundation to improve our services, reduce costs and improve compliance with our regulatory and legislative requirements. Data and information are the lifeblood of any organisation.'[1]

2. Purpose

The purpose of this strategy is to clearly communicate the importance of, and responsibility for, excellent information and data management. It will set out a clear framework, direction, and plan to improve data quality and accessibility. The objectives of this will be to:

- define and build a Council wide Data Architecture
- maximise the benefits of Microsoft 365 (MS365) licences and applications
- provide a foundation of data integrity for business intelligence and interrogation to identity opportunities for channel shift and service improvements
- improve collaboration and communication through the use of excellent data, both internally, with partner organisations and with our citizens and businesses
- provide a plan for data migration
- simplify controls for access and permission management
- provide assurance for data governance and compliance
- support the Corporate Plan with excellent data to become:
  - an engaged Borough where citizens and businesses have the opportunities to influence the delivery of services, plan, and investment
  - a high-performing organisation and a sustainable Borough
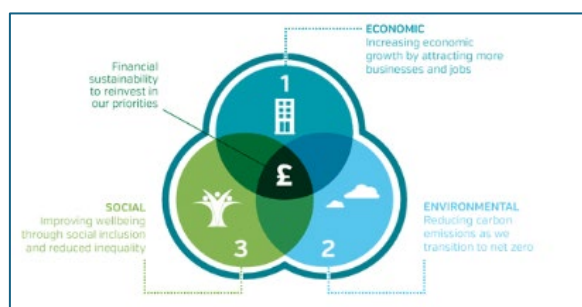
3. Current State

The analysis conducted for this strategy identified the following:

- 5.1 TB of data of unstructured data held within the current network drives
- This equates to 105,620 files of unstructured data
- Estimates of 80% duplicated and redundant data
- 1042 current SharePoint Sites

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[1] [Data is the Lifeblood of your Organization](#)

- The Public Records Office of Northern Ireland (PRONI) has signed off a retention and disposal schedule produced by the Councill that provides a mandate for cleansing data.
- Retention and disposal rules are not robustly applied to data within these repositories.
- The information estate is growing. This is costly in terms of managing and backing up the data.
- Information is unstructured and legislative compliance is difficult to achieve.
- Hybrid practices of data and information are currently utilised. Both paper and digital copy records exist within the organisation, creating further duplication and risk.
- Data interrogation and business analysis is not accurately conducted to provide evidence for compliance, business insights and opportunities for improvement. This is because the data is difficult to search within the network drives.

This data could be considered high risk as network drives are extremely difficult to search and interrogate.

Strategic Aim

We will provide a new information architecture and data management framework which is easy to use.

4. MS365 Licence Benefits

The Council has procured MS365 E3/F3 licences for every employee who has access to a laptop, computer, or digital device. These licences will improve data quality, collaboration, and business intelligence across the entire organisation. The data storage repositories are as follows:

- SharePoint
- OneDrive
- TEAMS

Strategic Aim

We will make better use of our MS365 Licences and applications.

5. Principles:

Data Management compliance to public accessibility legislation and the wider legal framework can be perceived as a complex, dry, and challenging concept for employees to grasp. Therefore, the following principles have been agreed with Information Governance and Digital Services as an initial foundation for excellent practice and as a framework for all employees and members.

5.1 The 10 Key Data Management Principles

1. Data and information created, received, and held belongs to the Council. It is a corporate asset.

2. Data management will be easy. There will be four clear repositories.
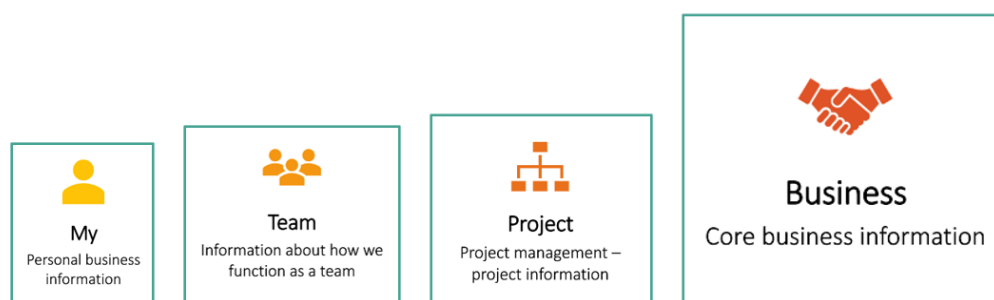
3. Information and data will be hosted in SharePoint Online. ICT will manage the storage. Information Officers (Compliance) will manage the information architecture. It will be simplified.

4. Information management will be modernised by creating and receiving data in digital format wherever possible.

5. Security, access to information and permissions will be clear and simple.

6. Searching for information will be easy.

7. Cleaning up our data before migration will improve information integrity.

8. A clear, simple communication plan will support this data strategy and cultural change.

9. Retention and disposal compliance applies to all data, irrelevant of the system.

10. SharePoint will be routinely considered and assessed as a viable alternative option in business cases for new/renewed line of business systems and IT applications with electronic document records management functionality.

Strategic Aim

Data Management will be easy. We will communicate our data management principles clearly to everyone within the organisation

6. MS365 Digital Information Repositories

6.1 One Drive – MY INFORMATION

OneDrive is a document repository that can be accessed either online or via the desktop application. Every employee with access to a laptop or digital device can have access to OneDrive. OneDrive provides employees with the ability to share folders and files with others as digital links.

The critical feature of OneDrive which must be taken into consideration is, **that each employee controls their OneDrive, and is a silo repository and considered a risk for core business records.**

This strategy defines the information category that should be stored within OneDrive is 'My personal business information.' This is information relating to an individual's employment. For example: draft documents you are authoring and need to collaborate with limited individuals on; aide memoirs unrelated to Core Business information.

In summary, One Drive will:

- replace personal drives
- be restricted in size
- used for personal business records

Strategic Aim

OneDrive will be used for personal business records and will be restricted in size

6.2 SharePoint – CORE BUSINESS INFORMATION

SharePoint is a browser-based collaboration, document management and storage repository. Its content management provides the ability to share and collaborate from any location as it is hosted in the CLOUD. It integrates seamlessly with all Microsoft Office products such as Word, Excel, and Outlook to provide a seamless experience for the organisation.

SharePoint is highly configurable, and this technology can provide an EDRMS (Electronic Document and Records Management System), which will be delivered as a new full Corporate File Plan.

SharePoint online will replace the current high risk unstructured network drives. SharePoint will also provide improved information integrity, search capabilities, automated retention and disposal and compliance. Only clean data will be migrated to the Corporate File Plan (see diagram overleaf).

Business Data repositories within SharePoint will be the largest as they will provide the primary repository for all core business data produced by employees, outside of line of business systems.

Proposed Corporate File Plan

Communication	Community Safety and Emergencies	Cemeteries	Democracy and Governance
Economic Community Regeneration	Environmental Health and Licensing	Environmental Protection	Finance
Health and Safety	Human Resources	Information and Communication Technology	Information Governance
Internal Audit, Insurance and Risk Management	Leadership	Legal Services	Leisure and Culture
Planning and Building Control	Policy and Performance	Procurement	Property
Public Health	Registration :	Transport and Infrastructure	Waste Management

SharePoint will be used for:

- core business data which is held in current network drives
- a new structure and Corporate File Plan
- automated retention and disposal wherever possible as these rules will be embedded within the system
- identifying where personal, special category data and commercially sensitive data is processed

Strategic Aim

SharePoint will be used for core business data and will replace the current network drives/shares. We will use Microsoft 365 (MS365) storage as to replace our network drives. We will create a new Corporate File Plan for everyone.

6.3 SharePoint – TEAM INFORMATION

SharePoint will also be configured to provide all functions with a Team Area. Team Information is accessed through the Corporate File Plan and provides an area specifically for team organisation and collaboration. Team areas will be consistent with the SharePoint Corporate File Plan features and functionality.
This information repository will be provided to every functional <u>team </u>within the Council. It is important to note <u>that team information is different from core business data.</u>

6.4 TEAMS – PROJECT INFORMATION

Microsoft 365 TEAMS is an application that supports workspace chat and video conferencing, via a web based virtual environment. TEAMS also has a SharePoint storage area as standard.

Project information differs from team and business information. A project has a defined beginning and end and will deliver a business benefit or change to the organisation. Therefore, the data stored within a project repository will be temporary in nature, until the project is shut down or closed. It is at this

point that the core records, such as benefits realisation reports, business cases etc, can be moved to the SharePoint Corporate File Plan.

Another key difference with projects is permissions and access. Project boards and teams often consist of cross departmental working or even external resource. Therefore, permissions management will differ from the Corporate Plan File.

TEAMS project sites will:

- be used for projects or temporary collaboration sites
- permit external sharing with external partners and organisations
- provide additional collaboration features such as channels, chat, recording and calling
- be used for data sharing

Strategic Aim

TEAMS storage will be used for projects and temporary collaboration. TEAMS PROJECT sites will be controlled through ICT and IG governance.

6.5 SharePoint PERMANENT DIGITAL PRESERVATION

SharePoint will also provide an additional site/repository for data deemed to be of historic value. This will enable the Information Governance (IG) Team to work collaboratively with PRONI to review and transfer records for permanent preservation. This supports the Council's archival responsibilities under the Public Records Act 1923.

Strategic Aim

Digital Data Preservation options will be included within the Corporate File Plan.

7. Data Structure – A New Corporate File Plan

Classification (categorisation) of information is exceptionally important as is supports finding, processing, using, analysing, and preserving data and information quickly and easily. Finding information is extremely important for compliance with access to information requests.

The Local Government Functional Classification Scheme (LGFCS) provides **a framework** which will be used to create a new functional corporate file plan.

Councils are continuously evolving and re-organising to align their services to increased public demand. However, the functions they deliver very rarely change. Most importantly, functions make sense to the public. Councils are made up of different functions, rather like different businesses operating within one organisation. So, for example, Human Resources is a completely different function (business area) to Democratic Services. It is especially important to use a functional classification as opposed to an organisational file plan for the following reasons:

- The functions of a council are easier for the public to understand – for example Planning, Parks and Leisure and Democratic Services. It is meaningful for them
- The functions of a council do not change often but the organisational structure may change over time
- The legislation matches the classification perfectly and provides the foundation for an Information Asset Register (IAR), Record of Processing Activity (ROPA) and Retention and Disposal Schedule (RADS)
- It can provide a simplified permissions and access model – i.e. the right people see the right information at the right time

Strategic Aim

SharePoint will be built as a 'functional' corporate file plan to provide a foundation for data integrity and resilience.

8. Email

8.1 OUTLOOK - Email Storage

It is extremely important to remember that emails are core records and this type of data should be managed in the same way as physical letters, applications and requests. Emails often contain personal information or commercially sensitive records. It is important to store emails and attachments within the SharePoint Corporate File Plan or a line of business system.

Individuals email folders within exchange pose risks as they are:

- Inaccessible for business continuity

- Could be held 'excessively, unfairly or used for another purpose' which would contravene compliance with GDPR and Data Protection Act or ICO audits

SharePoint provides functionality for 'dragging and dropping' emails into the Corporate File Plan. It is quick and easy. This provides visibility, transparency, and accountability for ALL data irrelevant of format.

8.2 Email Retention

Managing data within Outlook inbox and sent boxes is a risk as data is managed in a silo repository and business continuity cannot be achieved.

SharePoint will be the core repository for emails and attachments to reduce the risk.

Emails will be managed for the Council. The following retention and deletion rules will be automatically applied:

- Outlook INBOX – 2-year deletion policy applied
- Outlook SENT ITEMS – 2-year deletion policy applied
- Outlook DELETED ITEMS – 1 year deletion

Strategic Aim

SharePoint will be the primary repository for emails and attachments. Outlook will be managed with retention and disposal rules.

9. TEAMS – Chat and Channels

TEAMS, the application, holds data such as informal 'Chat' and 'Channel.' This data can grow exponentially, which impacts on storage capacity. Therefore, it is important to manage this type of data with a policy. The following policy will be applied to TEAMS sites:

- CHAT – 6-month deletion policy applied
- CHANNEL- 2-year deletion policy applied

10. Enterprise/Line of Business Systems

Data held within bespoke systems will continue to be managed within these systems.

Systems will be routinely assessed when licences are due for renewal. This will determine whether SharePoint is a viable alternative.

It is important to ensure that data is uploaded and managed within the systems intended and copies are not held as duplicates within the network drives (hybrid management).

Strategic Aim

Data in line of business systems will continue to be managed within the system. SharePoint will be routinely assessed as a viable alternative.

11. Data Migration
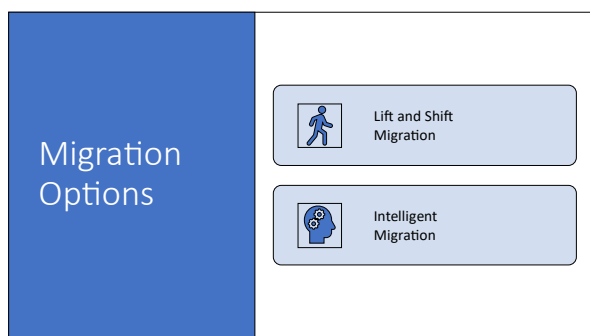
Data will be migrated to the new Corporate File Plan using a third-party migration tool. An 'intelligent migration' method will be used to ensure that the metadata (date created, modified and author) remains with the data. This is particularly important as it will provide accurate search results within SharePoint.

Retention and disposal rules will be applied to the data, as it is migrated. This ensures that only clean, reliable data is migrated.

Uploading data or 'lifting and shifting' the data in its current format would not only compromise data integrity, but also move data which is not compliant or duplicated.

Collaborating with employees to cleanse and allocate the data which need to moved will be integral to this strategy.

Strategic Aim

Data will be migrated for everyone, using an intelligent migration tool. Collaborating with employees is intrinsic to successful migrations.

12. Data Retention and Disposal

The Retention and Disposal Schedule has been approved by PRONI and can be used with confidence within SharePoint Corporate File Plan.

- Wherever possible, deletion will be automated within SharePoint, in accordance with business and legislative requirements.
- Retention and disposal rules will also be applied at the point of migration.
- Whether the disposal action requires a manual deletion or an agreed automated deletion, it will be clearly displayed as a visual text within the system.

Title	Retention...	Sensitivity	Manual A...	Action
Data Privacy Impact Assessments	Manual delete after date superseded. Business agreed retention period	Commercially Sensiti	Yes	Delete
Data Protection Policies and Guidance	Manual delete after superseded. Business agreed retention period	None	Yes	Delete
Data Sharing Agreements	Manual delete 6 years after end of agreement. Limitation Act 1980	None	Yes	Delete
Investigations and Breaches	Delete 3 years after date last modified. Business agreed retention period	Special Category	No	Delete
Reports	Delete 6 years after date last modified. The National Archives Best Practice	None	No	Delete
Training	Manual Delete after superseded. Business agreed retention period	Personal	Yes	Delete
Asset Management	Keep permanently. Business agreed retention period	Commercially Sensiti	Yes	Keep

Strategic Aim

Retention and Disposal rules will be visually displayed within the Corporate File Plan and automated wherever possible.

13. Data Permissions and Access

Permissions and access to data will continue to be controlled and managed by ICT. The permissions and access model will be simplified.

However, SharePoint provides everyone with ability to 'share' digital links with anyone within the organisation, either 'view,' 'edit' or 'review.

Strategic Aim

Access and permissions to data will continue to be controlled and managed by ICT. Employees will have greater flexibility in sharing data by digital links.

14. Data Automation

Below are examples of additional tools within the Microsoft portfolio, which may be utilised going forward.

14.1 Power BI

Power BI is an application which can turn unrelated sources of data into coherent, visual, and interactive business insights, such as dashboard. Power Automate is a service that can be used to create **automated** workflows between other applications and data sources. This application can synchronise files, collect and send information and receive notifications.

Power BI is interactive and collaborative for sharing business data.

14.2 Power Automate

Power Automate is a service that can be used to create **automated** workflows between other applications and data sources. This application can synchronise files, collect and send information and receive notifications.

These tools are included within the Council's current MS365 licences.

Strategic Aim

We will use Power Automate and Power BI to automate workflow and provide visual dashboards.

15. Data Interrogation

The 'Search' functionality within SharePoint is extremely powerful. It is possible to interrogate the system to search for key words within a document, for example a date; created by; or an author. Refining search results by date or data format is extremely easy.

Searching and interrogating data will provide rich business intelligence and data insights, which will support process improvements, evidence of compliance and channel shift opportunities.

Strategic Aim

Searching and interrogating data will be extremely easy and will provide accurate business intelligence and data insights.

16. Improper Storage of Data

Local authorities can tend to store data which has been downloaded by employees which is deemed as illegal/inappropriate for the following reasons:

- Breach of copyright
- Use of network drives to store personal data

This is a cost to the authority in terms of storage, back up and management. This personal data usually includes:

- Films and DVDs
- Music and CDs
- Personal photographs, films, videos and social media content
- TV series

It is extremely important to ensure that this type of data is not stored within Council systems and network drives. Cleansing and migrating data will ensure that these are removed from the Council's drives to free up space for core business information and reduce storage costs.

Strategic Aim 16

Clear communication and processes will support employees in the removal of improper personal data from Council data storage.

17. Data Governance

This strategy is fully supported by a set of data and information governance policies that include the following:

- Retention and Disposal Policy
- Digital Strategy
- Information Access Policy
- Data Protection Policy
- CCTV and Surveillance Policy

The Publication Scheme (FOI Act 2005) currently does not include the current Data Governance Framework for data processing. This provides the public with transparency for the public in terms of compliance to public accessibility legislation and the wider legal framework.

5. Our policies and procedures

Type of information	How to access
Policies and procedures for the conduct of council business	On our website at Council Governance
Policies and procedures for the provision of services	Available on request from the relevant council section.
Customer service procedures	On our website at Complaints, Compliments and Comments
Freedom of Information procedures	On our website at Freedom of Information
Equality Scheme	On our website at Our Commitment to Equality
Disability Action Plan	On our website Disability
Safeguarding procedures	Information on our website at Safeguarding Email enquiries@ardsandnorthdown.gov.uk for a copy of the policy.

Strategic Aim

A full governance framework will include an MS365 policy. The Publication Scheme will include all Data Governance Policies.

18. Sources and References

Freedom of Information Act 2000

Data protection: The Data Protection Act - GOV.UK

The Environmental Information Regulations 2004

Citizen home - Ards and North Down Borough Council

Information Access Policy

Digital Strategy

19. Glossary of Terms

Channel Shift – means to transition from one form of communication to another.   Channel shift definition – prodo.com

Corporate File Plan – is a roadmap, listing different records maintained by the organisation, where and how they are stored, and how long they are kept.

Data - this is a wide-ranging term which can encompass a variety of unprocessed facts or information. These could range from numbers inputted into a computer system, visual or audio data, paper-based or digital. Data is all around us but requires context and processing to become meaningful/useful.

'In the most general sense, data refers to a collection of individual values that, when processed, convey information'. Data Definition (techterms.com)

'Data is just facts and figures. This can be a set of value of a qualitative or quantitative variable, in other words – data that can either be measured in numbers or not. Data is measured, collected, reported, and analysed.' What is the Difference Between Data, Information, and Records? | DeltaNet (delta-net.com)

Data architecture - describes the structure of an organisation's logical and physical data assets and data management resources. It is an offshoot of enterprise architecture that comprises the models, policies, rules, and standards that govern the collection, storage, arrangement, integration, and use of data in organisations. The Open Group Architecture Framework (TOGAF).

Functional Team – a group of people with a common functional expertise working towards shared objectives, for example an ANDBC Service Unit.

Information - Data in context with a particular meaning.

'Information is something that provides the answer to a question of some kind or resolves uncertainty. It is linked closely to data and knowledge, which is why the terms can often be confused.' What is the Difference Between Data, Information, and Records? | DeltaNet (delta-net.com)

'Data that has been processed, e.g. grouped, normally by a computer, to give it meaning and make it interpretable…Information is data that has meaning… data in a meaningful form becomes information. Information can be about facts, things, concepts, or anything relevant to the topic concerned. It may provide answers to questions like who, which, when, why, what, and how.'285017-data-information-and-knowledge.pdf (cambridgeinternational.org)

Record - information created, received and maintained as evidence in the course of council business

'A record is anything that supports the business such as business decisions, policy documents and approval documents. This includes emails, paper documents or electronic files that provide evidence of business activity. Data and information can then be held as a record both physically in a book, or electronically in a computer file. Most of the information you use in day-to-day working life will be classed as a record as a result.' What is the Difference Between Data, Information, and Records? | DeltaNet (delta-net.com)

Records Management - is the systematic control of an organisation's records, throughout their life cycle, in order to meet operational business needs, statutory and fiscal requirements, and community expectations. Effective management of corporate information allows fast, accurate and reliable access to records, ensuring the timely destruction of redundant information and the identification and protection of vital and historically important records. National Records of Scotland – What is records management

Structured data - raw facts or figures that are usually stored in relational databases and organised in defined columns and rows.

Unstructured data - content held in documents, email, images, videos, and web pages that and are not organised in a pre-defined way.

Unclassified

ITEM 5

Ards and North Down Borough Council

Report Classification	Unclassified
Exemption Reason	Not Applicable
Council/Committee	Corporate Services Committee
Date of Meeting	11 February 2025
Responsible Director	Chief Executive
Responsible Head of Service	Community Planning Manager
Date of Report	06 January 2025
File Reference	'-
Legislation	Local Government (NI) Act 2014
Section 75 Compliant	Yes ☐ No ☐ Other ☒ If other, please add comment below: Strategy reviewed, changes not substantial to require rescreening
Subject	Mid-way review of the Big Plan (Community Plan) for Ards and North Down (2017-2032)
Attachments	Appendix 1 - The Big Plan | Outcomes, priorities and workstreams

Background

The Big Plan for Ards and North Down (2017-2032) was published in April 2017. It was reviewed in 2020/21 and an addendum, Our Big Priorities, was published in April 2022. The five outcomes set out in the 2017 Big Plan were unchanged but were supported by 10 priorities and 15 workstreams. This first review took place during Covid and changed how the partnership workstreams operate.

Three Statements of Progress have been published in November 2019, November 2021 and November 2023.

The Big Plan runs for another eight years. It is likely that work on the Borough's second community plan will start in 2030. Before then a review of the current plan (The Big Plan) and the addendum (Our Big Priorities) was undertaken to ensure they

Not Applicable

still represent the direction Ards and North Down's Strategic Community Planning Partnership wish to follow for the next eight years.

Mid-way review of the Big Plan (2017-2032)
In reviewing the current documents, consideration was given to statistical evidence, existing workstreams, partnership engagement, feedback from the Third Sector HUB partners and the resources available within Council's Community Planning Service.

Outcomes
A recommendation was made to amend the wording of all five outcomes. The rational for this was to better reflect what the partnership is trying to achieve. The suggested changes better align the outcomes with the workstreams.

The opening words of all outcomes now include the words 'benefit from'. *All people in Ards and North Down benefit from …*

The table below outlines the rest of the proposed changes

Original wording	Amended wording	Rational of change
Fulfil their lifelong potential	Opportunities to fulfil their lifelong potential	Our workstreams focus on empowering people to look after themselves. We can provide the opportunities, but we need people to take them.
Enjoy good health and wellbeing	Being equipped to enjoy good health and wellbeing	Like above. We can provide to tools people need to manage their own wellbeing, or to help them live as well as possible with ill health.
Live in communities where they are respects, are safe and feel secure	Communities where they are respected, are safe and feel secure	People should feel safe and secure everywhere in the Borough, whether they live in a community or are visiting it.
Benefit from a prosperous economy	A prosperous and inclusive economy	The word inclusive has been added as the workstreams that fall under this outcome are about providing support to people furthest from the labour market and to address financial disadvantage.
Feel pride from having access to a well-managed sustainable environment	An environment that is valued, well-managed and accessible	The original wording was too narrow for the workstreams that have developed.

Not Applicable

The agreed changes are subtle but make it easier to provide a narrative communicating, to all stakeholders, the priorities and the workstreams.

Priorities

In 2022, The Big Plan Part II | Our Big Priorities had 10 priorities. Many of the workstreams fall across multiple priorities. In our efforts to reduce silos the updated *Big Plan | Outcomes, Priorities and Workstreams* has reduced the priorities from 10 to six.

The table below sets out the rational for the amendments.

Original priorities	Amended priority	Rational
Participation	Participation	No change
Infrastructure	Infrastructure	No change
Emotional Wellbeing Health Equity	Determinants of Health	A person's health is influenced by many factors. The CP Partnership, and the wide remit of its members, can help people to stay healthy. This priority focuses on prevention and empowerment.
Welcoming to Everyone Vulnerable people	Welcoming Spaces	Welcoming spaces incorporates all people and vulnerabilities.
Better jobs and skills Inequalities (Economic)	Employment, Employability and Economic Inequalities	We need to understand why economic inequalities exist and the barriers to economic activity to improve employment opportunities. Community development support and economic development support need to work together.
Sustainability Valuing our Environment	Environmentally Sustainable Communities	A well-functioning environment is essential to support people and their needs – food, water, shelter, clean air etc... It also improves mental and physical well-being. Climate change will interfere with existing environmental systems, and we need to make communities resilient and sustainable.

Not Applicable

Workstreams

Within the updated Big Plan, workstreams have remained largely unchanged. The exception to this is three workstreams that we have struggled to get traction with.

A new Health and Wellbeing Workstream has been established under outcome 2 priority 3. This incorporates two previous workstreams that focused on emotional wellbeing and social isolation & loneliness. It is proposed to establish a Climate Resilient Communities Workstream, incorporating our Sustainable Food Workstream, under outcome 5 priority 6. The remit and operation of this new workstream is still in the planning stage.

Outcomes, Priorities and Workstreams

There is always scope for the partnership to establish additional workstreams, but consideration should be given to alignment with agrees priorities, outcomes and available resources across the Community Planning Partnership.

The table below shows the link between outcomes, priorities and workstreams.

Outcome 1 Outcome, Priorities and Workstreams		
All people in Ards and North Down benefit from opportunities to fulfil their lifelong potential	*1. Participation*	*2. Infrastructure*
	• Community Resuscitation Group • Citizen Engagement* (includes Over 50s Council, Youth Voice, Community Support Steering Group, Third Sector HUB) • Borough Reading Project	• Public Estate and Lands Group
Outcome 2 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from being equipped to enjoy good health and wellbeing	*3. Determinants of Health*	
	• Health and Wellbeing Group *(incorporates emotional wellbeing, social isolation and loneliness)* • Whole Systems Approach to Healthier Weight	
Outcome 3 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from communities where they are respected, are safe and feel secure	*4. Welcoming Spaces*	
	• Age Friendly • Dementia Friendly • Multi-agency Support Hub	
Outcome 4 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from a prosperous and inclusive economy	*5. Employment, Employability and Economic Inequality*	
	• Labour Market Partnership • Anti-poverty (via social supermarket, AND Poverty Forum and strategic subgroup of SCPP)	
Outcome 5 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from an environment that is valued, well-managed and accessible	*6. Environmentally Sustainable Communities*	
	• Sustainable Tourism • Climate Resilient Communities (inc. Sustainable Food)	

Not Applicable

*Citizen Engagement is not a specific workstream but a combination of initiatives that help increase the public's influence on issues to be addressed and how public services are delivered.

A more streamlined Big Plan will help better communicate the focus and activities of the Community Planning Partnership and how this results in better outcomes for people living in, working in and visiting Ards and North Down.

On 11 November 2024, Ards and North Down's Strategic Community Planning Partnership agreed the following:
1. To adopt the revised wording of the five Big Plan outcomes
2. To adopt the amended list of priorities
3. To adopt the content of the document as an updated Community Plan for Ards and North Down (2017-2032) to be known as The Big Plan | Outcomes, Priorities and Workstreams.

Promotion and Communication about the updated Big Plan
The original Big Plan (2017-2032) and its addendum Our Big Priorities will be archived and replaced with an updated *The Big Plan | Outcomes, Priorities and Workstreams*. The new version will be officially published in April/May 2025 and will be communicated to stakeholders. A summary version will also be produced.

To coincide with the publication and promotion of the new version of the Big Plan, a morning event is being planned for 7 May 2025. *The Big Community Planning 10 year summit* will reflect on 10 years of community planning in Northern Ireland.

The purpose of this event is to communicate about initiatives that have taken place to help deliver the Big Plan outcomes. It will also look forward and start a conversation with stakeholders about the next 10 years.

Six new community planning animations have been commissioned. These will highlight some of the initiatives that have been undertaken under the umbrella of community planning. Alongside the new Big Plan publication, the animations will be used throughout 2025 to help communicate the positive impact community planning is having on communities (people, businesses, visitors, partnerships etc.) across Ards and North Down.

RECOMMENDATION

It is recommended that Council notes this report.

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

27

The Big Plan | Outcomes, priorities and workstreams

Creating positive outcomes for everyone across Ards and North Down

This is the mid-way review of the Big Plan (2017-2032)

Publication Date: April 2025

Ards and North Down's
**Community
Planning
Partnership**

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

28

Contents

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

29

Summary of the Big Plan and Our Big Priorities (Plan on a Page)

Creating positive outcomes for everyone across Ards and North Down 2017-2032

Our vision:

"Ards and North Down is a vibrant, connected, healthy, safe and prosperous place to be"

The Big Plan aims to have empowered, resilient individuals and communities; to reduce inequality; to promote good relations and sustainability; and to improve accessibility of all public services.

Outcome 1 Outcome, Priorities and Workstreams		
All people in Ards and North Down benefit from opportunities to fulfil their lifelong potential	1. Participation	2. Infrastructure
	• Community Resuscitation Group • Citizen Engagement* (includes Over 50s Council, Youth Voice, Community Support Steering Group, Third Sector HUB) • Borough Reading Project	• Public Estate and Lands Group
Outcome 2 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from being equipped to enjoy good health and wellbeing	3. Determinants of Health	
	• Health and Wellbeing Group (incorporates emotional wellbeing, social isolation and loneliness) • Whole Systems Approach to Obesity	
Outcome 3 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from communities where they are respected, are safe and feel secure	4. Welcoming Spaces	
	• Age Friendly • Dementia Friendly • Multi-agency Support Hub	
Outcome 4 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from a prosperous and inclusive economy	5. Employment, Employability and Economic inequality	
	• Labour Market Partnership • Anti-poverty (via social supermarket, AND Poverty Forum and strategic subgroup of SCPP)	
Outcome 5 Outcome, Priority and Workstreams		
All people in Ards and North Down benefit from an environment that is valued, well-managed and accessible	6. Environmentally Sustainable Communities	
	• Sustainable Tourism • Climate Resilient Communities (inc. Sustainable Food) • Moved by Nature**	

*Citizen Engagement – this is not a workstream but a combination of initiatives that help increase the publics influence on issues to be addressed and how public services are delivered.

**Moved by Nature is a project that used to be a workstream but that helps deliver priorities 1,3,4,5 and 6

The Big Plan is aspirational and sets out the future we want to achieve for people of Ards and North Down; explaining how we want to make life better for everyone over the next 15 years.

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

30

The Big Plan for Ards and North Down

The Local Government (Northern Ireland) Act 2014 requires councils to facilitate the development of a Community Plan via a Community Planning Partnership. Members of the Partnership are drawn from across the public, private and third sectors in Ards and North Down.

In Ards and North Down the Community Plan is known as the Big Plan.

The Big Plan provides a commitment from the Strategic Community Planning Partnership (SCPP) to the people of Ards and North Down on what will be a collective initiative. It is the overarching 'umbrella' plan for Ards and North Down that other plans, and strategies, should look to for guidance and direction.

The SCPP oversaw the development of the Big Plan for Ards and North Down. In addition to reviewing performance of the Partnership, the SCPP considers the impact of actions and partnership activity on progress towards the five Big Plan outcomes.

The Big Plan outlines how public service providers in Ards and North Down work together to maintain and improve the well-being of citizens in line with the five outcomes. In 2022, following a review of the Big Plan, the Big Plan | Part II: Our Big Priorities was published. In 2024, the Big Plan and the Big Plan | Part II were further reviewed, and additional amendments made.

The outcomes and priorities have been updated to more accurately reflect the issues and workstreams the Community Planning Partnership has elected to focus on.

The Big Plan and Our Big Priorities is an updated version of both previous publications.

The Big Plan Outcomes

The Big Plan for Ards and North Down is based on five outcomes.

All people in Ards and North Down benefit from:

Outcome 1   Opportunities to fulfil their lifelong potential

Outcome 2   Being equipped to enjoy good health and wellbeing

Outcome 3   Communities where they are respected, are safe and feel secure

Outcome 4   A prosperous and inclusive economy

Outcome 5   An environment that is valued, well-managed and accessible

The review and updated Big Plan are based on what is being done and the resources available to deliver workstreams.

The Big Plan Priorities

Priorities have been identified to help the Community Planning Partnership make progress towards achieving the outcomes. Priorities, and associated workstreams, help the Partnership to focus on what they can collectively do to create positive outcomes for everyone across Ards and North Down. The 2024 review refined the priorities from 10 to six.

The six Big Plan priorities and their associated workstreams are:

1. Participation (Outcome 1)
    o   Citizen Engagement (includes Over 50s Council, Youth Voice, Community Support Steering Group, Third Sector HUB)
    o   Community Resuscitation Group
    o   Borough Reading Project

2. Infrastructure (Outcome 1)
    o   Public Estate and Lands Group

3. Determinants of Health (Outcome 2)
    o   Health and Wellbeing Group (incorporating emotional wellbeing, social isolation and loneliness)
    o   Whole Systems Approach to Obesity

4. Welcoming Spaces (Outcome 3)
    o   Age Friendly Alliance
    o   Dementia Friendly (South Eastern Area Partnership)
    o   Multi-agency Support Hub

5. Employment, Employability and Economic Inequalities (Outcome 4)
    o   Labour Market Partnership
    o   Anti-poverty (via social supermarket, Poverty Forum and subgroup of SCPP)

6. Environmentally Sustainable Communities (Outcome 5)
    o   Sustainable Tourism
    o   Climate Resilient Communities (incorporating Sustainable Food)
    o   Moved by Nature

Priorities and workstreams are continually reviewed and amendments are recommended to and agreed by the Strategic Partnership. Most workstreams operate via specific workstream groups. Some, like the Citizen Engagement Workstream, is a combination of initiatives that support wider engagement that incorporates the principles of community planning.

The Moved by Nature workstream has changed from having a specific workstream group to operating across several related workstreams to help deliver all six priorities.

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

32

Evidence and decision making

A key focus of community planning is using evidence to improve decision making. This means knowing what data is available and analysing it to understand what it means. We constantly review our statistical baseline and update our Assessment of Wellbeing. The Assessment of Wellbeing is a series of statistical dashboards that help show what life is like for people who live, work and visit Ards and North Down. It helps the Community Planning Partnership to identify issues, where life is not as good as it could be and put in place actions and service reviews to change this. Chapters within the Assessment of Wellbeing are used to inform the actions undertaken by the Big Plan Workstream Groups and includes a population profile to show who lives in Ards and North Down. This is illustrated in the diagram below.

If Ards and North Down was 100 people, then

Widowed 7.17% Male 48.70%
Married or Civil Partnership 51.21% Female 51.30%
Single 30.92% Separated or Divorced 10.69% Aged 0 – 15 18.13%
Bad Health 7.28% Aged 16 - 39 25.85%
Fair Health 14.66% Aged 40 - 64 33.89%
Good Health 78.06% Aged 65+ 22.14%

Ards and North Down Population Demographics (2024)

Economically Inactive 25.27% White 97.70%
Economically Active 74.73%
No Qualifications 19.17% Ethnic Minority 2.30%
Less than NVQ Level 4 46.68% No Religion 32.05% Protestant & Other Christian 55.48%
NVQ Level 4 + 34.15% Catholic 11.26%

Other chapters within the Assessment of Wellbeing include:

Age friendly	Education
Agriculture, environment and infrastructure	Health and wellbeing
Arts and culture	Labour market
Children and young people	Safety and crime
Deprivation, poverty and inequality	Tourism

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

33

Population indicators

From the Assessment of Wellbeing 28 indicators have been identified. Indicators act as a barometer to help the Community Planning Partnership assess whether an issue is getting better or worse. They help show if progress is being made in the right direction or whether additional interventions are needed. Indicators have been selected for careful monitoring based on the Big Plan outcomes, priorities and workstreams.

% of school leavers achieving at least level 2 or above; including English and Maths	Gap between % of non-free school meal entitlement school leavers and % of FSME school leaves achieving level 2 or above in English and Maths
% of babies born at low birth weight	Number of further education regulated enrolments by age
% of population who were low self-efficacy (persons aged 16+)	% of population who were low self-efficacy (persons aged 60+)
Number of anti-depressant drug items dispensed per head of registered population	Number of preventable deaths per 100,000 population
Number of admissions to hospital per 100,000 for drugs related causes	Number of admissions to hospital per 100,000 for alcohol related causes
Gap in life expectancy between most and least deprived areas	% of persons spending leisure time outdoors; one a week or more
Level of influence people feel they have over local decision making	Adult obesity rate in the SEHSCT
Childhood obesity rate (BMI) in Primary 1	Childhood obesity rate (BMI) in Year 8
Number of road traffic casualties per 10,000	Number of dwelling fires
Number of anti-social behaviour crime offences	Number of recorded crime offences
Medium gross weekly earnings	Working age population – skills level
Number of VAT and PAYE registered businesses	Proportion of working age population who are economically inactive (excluding students)
Gross Value Added (GVA) per head of population in AND against NI average	Total spend (£) during overnight trips
Number of applicants on Social Housing Stress List	% of individuals in relative poverty
% of municipal waste prepared for reuse, dry recycling and composting	% of households with home broadband access
Kt of Carbon Dioxide emissions per km^2	% of journeys made by walking, cycling and public transport
% of residents who said they would 'definitely' or 'strongly consider buying an electric car for their next purchase	Number of e-car charging points

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

34

Ards and North Down's Community Planning Partnership

Ards and North Down's Community Planning Partnership is the collective term used to describe aspects of community planning. The diagram below illustrates provides an overview of the Partnership.

Strategic Community Planning Partnership

Oversight of the Community Planning Partnership is provided by Ards and North Down's Strategic Community Planning Partnership (SCPP). Membership of the SCPP includes statutory partners (named in legislation - Local Government (Community Planning Partners) Order 2015) government departments, co-opted organisations that deliver public services and the Chairperson of Ards and North Down's Third Sector HUB.

All members of the SCCP are considered equal partners and work to a Governance Agreement. Its remit is to ensure that community planning, and the Big Plan for Ards and North Down, are effectively implemented and that operation of the partnership results in positive outcomes for everyone across Ards and North Down.

The SCPP meet three times a year.

See back cover for members of the SCPP.

Ards and North Down Borough Council's Community Planning Service

Community planning is facilitated by Ards and North Down Borough Council. Council's Community Planning Service is responsible for organising and participating in partnership meetings, providing the secretariat support for the Third Sector HUB, facilitating workstream group meetings, collecting and analysing data to help inform evidence-based decision-making and reporting progress to the SCPP. It is also responsible for promoting community planning activities and within Council works to help other services to embed the principles of community planning within their own work areas.

Ards and North Down's Third Sector HUB

Members of the Third Sector HUB are primarily from the community and voluntary sector. Council provides secretariat support, but it is member led and operates to Terms of Reference that were agreed by consensus of its members. The purpose of the Third Sector HUB is to identify and consider opportunities for collaborative working, to work both strategically and operationally in the community planning process, to act as champions and amplify the voice of the third sector and to act as a link between the SCPP and Third Sector HUB members.

The Third Sector HUB meets three times a year.

Ards and North Down's Big Plan Workstreams

Big Plan Workstreams help community planning partners address the six Big Plan priorities and work towards the five Big Plan outcomes. Most workstreams are supported by dedicated workstream groups, several are cross-cutting and are delivered across multiple workstreams and groups. The citizen engagement workstream is an example of this.

Workstreams can be both strategic (membership drawn from senior officers within Strategic Partnership) or operational. Operational workstream groups include other officers from strategic partnership organisations as well as members of the Third Sector HUB

Workstreams operate according to need and most tend to have their own Terms of Reference that have been developed to reflect their purpose or how they are funded. Some workstreams report only to the SCPP, while other also report to a funding organisation (e.g. Age Friendly and the Labour Market Partnership). Many workstreams also report their activities to relevant Ards and North Down Borough Council Committees in accordance with its governance arrangements.

The jagged line in the diagram illustrating Ards and North Down's community planning structure, represents the interaction between, and across, outcomes, priorities and workstreams. The value in community planning is in the co-ordination of actions delivered between the workstreams and priorities. The advantage of the community planning structure is that it is not linear, and it has been designed to have greater impact on the issues that have been identified as important for people living and working in Ards and North Down.

Workstream group meetings vary in frequency.

Outcomes, priorities and workstreams

Delivery of the Big Plan outcomes is via the identification of priorities and workstreams.

Outcomes are very aspirational and explain what we would like to see happen in the future.

Priorities have been identified that the Community Planning Partnership think will help us make progress towards achieving these outcomes by focusing on key issues.

Workstreams help members of the Community Planning Partnership work together to develop action plans and/or implement activities that are deliverable.

In delivering the Big Plan, a balance is needed between what we would like to do and the resources we have available. However, working in partnership with each other means that we can try and use the resources of each partner to collectively have a bigger impact.

The Big Conversation

Not all evidence needed to help inform the activities of workstreams needs to be based on statistics and complicated analysis. In addition to the information gathered via the Assessment of Wellbeing we also collect anecdotal information from residents and service users. This is often evidence based on life experiences. We take a people first approach to the evidence we can collect as it is important that the Community Planning Partnership understands the stories, and real life experiences, behind some of the statistics.

The Big Conversation is the brand of our engagement activities, and we often use this when we need to gather information from the public. Information gathered via the Big Conversation is used to help the workstream groups to plan interventions and actions. We also use other mechanisms like Council online surveys, direct feedback from members of the Over 50s Council and Youth Voice, and information collected by Community Planning Partners.

The UN Sustainable Development Goals

Environmental, social and economic wellbeing are the corner stone of sustainable development and are an important part of the community planning process.

The UN Sustainable Development (SD) Goals provide a blueprint for peace and prosperity for people and the planet. The goals recognise that ending poverty and other deprivations go hand-in-hand with strategies to improve health, education, reducing inequality and driving economic growth.

In recognition of the importance of embedding sustainable development within the delivery of the Big Plan, the relevant SD Goals are integrated through the workstreams.

The strength of community planning is in the ability of the Partnership to make connections across Big Plan priorities, workstreams and the SD Goals. This results in a more holistic approach to action planning.

Outcome 1 | Priorities and Workstreams

All people in Ards and North Down benefit from opportunities to fulfil their lifelong potential

We work towards this outcome by increasing participation opportunities for people within their communities and for them to have a greater say in decisions that affect them. We work in partnership to develop sustainable infrastructure that supports other Big Plan outcomes by providing space for people to be healthy, safe, belong, prosperous and supported within the limits of our natural environment.

Priority 1: Participation

Prioritising participation is important because by increasing the opportunities that residents, business owners and other stakeholders have to co-design and provide feedback on public services will result in the delivery of better quality services that meet their needs.

What our workstreams will focus on?

Our workstreams aim to get more people involved within their community.

The Community Resuscitation Group's action plan focuses on increasing participation and confidence in members of the public being able to respond in the event of an emergency. A Borough Reading Project is being developed to encourage to promote reading for fun. We want to have more reading, by more people in more places.

Many community planning partners have their own mechanism for involving the public in the design and delivery of their services. Specific to community planning we have established the Over 50s Council, Youth Voice, Community Support Steering Group and Third Sector HUB.

CP Partners: ANDBC, EA, PHA, Libraries NI, SERC, SEHSCT, NIAS, PSNI, NIFRS and Third Sector HUB

Priority 2: Infrastructure

Prioritising infrastructure is important because lots of community planning partners own and manage assets across Ards and North Down. By improving communication and working together we can make joint decisions on how some of these are managed, including finding ways where we can share facilities and have a joint presence. Developing shared initiatives will help the partnership sustainably invest in future infrastructure.

What will our workstream focus on?

Our Public Estate and Lands Group provides a platform for Strategic Community Planning Partners to discuss ideas and opportunities for shared spaces, surplus land and property and future aspirations. The Newtownards Citizen Hub is an example of a shared project.

A Task and Finish group is helping partners to work together to help reduce their carbon emissions and to comply with the NI Climate Change Targets. Partners have shared information on how they are reducing emissions as well as plans for future capital investment. The potential for shared infrastructure is part of these conversations.

CP Partners: ANDBC, SEHSCT, Education Authority, Libraries NI, Invest NI, PSNI, NIFRS, NIHE, Translink

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

38

Outcome 2 | Priority and Workstreams

All people in Ards and North Down benefit from being equipped to enjoy good health and wellbeing

We work towards this outcome by empowering people to take control of their personal wellbeing and making better life choices by increasing opportunities for people to adopt more active lifestyles. We work in partnership to make it easier for people to access support services and develop infrastructure that makes it harder for people to be overlooked.

Priority 3: The determinants of health

Prioritising the determinants of health is important because we need to create effective public policies and interventions that aim to improve health outcomes and reduce health disparities.

The wider determinants of health are social, economic and environmental factors that influence an individual's health and wellbeing, such as income, education, housing and access to health care. By understanding these factors, we can work towards achieving health equity, where everyone can attain their highest level of health.

What our workstreams will focus on?

The Health and Wellbeing Workstream Group focuses on helping people to look after their own wellbeing by showing them how to take control and make positive changes across the determinants of health.

The Take 5 Ways to Wellbeing public health campaign has been adopted to help signpost people to the things they can do to maintain their own health and wellbeing. The Health and Wellbeing Group will collate an interactive resource signposting people to what they can do locally to connect, keep learning, be active, take notice and give.

Part of this signposting initiative includes creating an interactive online Moved by Nature calendar. This tells people about some of the activities they can do in Ards and North Down each month that will help them look after their own wellbeing. This activity also supports priority 6 of the Big Plan | Sustainable Communities.

Ards and North Down has an initiative to take a whole systems approach to healthy weight. A whole system approach acknowledges the complexity of weight management and all the other factors that influence a person weight beyond just diet and exercise. By applying a whole systems approach to a problem, we are more likely to make necessary changes that help create lasting outcomes. This is a long-term initiative, and it will likely be 10 or more years before we know if it is having an impact.

CP Partners: ANDBC, SEHSCT, PHA, Sport NI and Third Sector HUB

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

39

Outcome 3 | Priority and Workstreams

All people in Ards and North Down benefit from communities where they are respected, safe and feel secure

We work towards this outcome by making Ards and North Down a great place to grow older and where support is available to people who need it. We work in partnership to make this a welcoming place with increased amounts of shared spaces, where there are growing levels of respect among communities and cultures and where people are safe in their homes, within their communities and in all public spaces.

As a partnership we will work together to identify people at risk and work together to reduce those risks to the lowest possible level.

Priority 4: Welcoming spaces

Prioritising welcoming spaces is important because they play an important role in fostering community, inclusion and wellbeing. Welcoming spaces break down barriers and promote understanding and acceptance among people of difference race, religions and sexual orientation. Welcoming spaces is about making Ards and North Down a great place to live and grow older.

What our workstreams will focus on?

By making Ards and North Down Age Friendly we are making sure that people of all ages have the facilities and support they need to live safely, to socially interact, to keep and to develop resilience to change. Ards and North Down's Age Friendly Alliance has developed an Action Plan and Strategy and while lots of the prioritised focus on older people, when you consider the needs of older people when designing services and developing infrastructure, you are also considering the needs of all other age groups and needs.

The Big Guide to Age Friendly Services was developed following feedback from older residents that they struggled to know where to go to for help.

The Over 50s Council provides feedback to the Age Friendly Alliance to make sure the voice of older people is represented. Intergenerational activities between the Over 50s Council and Youth Voice have taken place.

One of the activities being taken forward by the Over 50s Council, and the Council's Disability Forum, is the development of a Considerate Parking Campaign. Members highlighted the challenges they encounter when navigating pavements and a campaign with the strap line "You have a choice we don't" has been co-designed.

Dementia is not specifically an age related condition. Creating Dementia Friendly Communities is included within the Age Friendly Action Plan. A South Eastern Dementia Friendly Partnership has been set up that also includes the council areas of Lisburn & Castlereagh and Newry, Mourne & Down. Following engagement with people living with dementia and their carers an action plan has been developed. A focus of this action plan is improving communication and supporting people to access the appropriate care pathways to get help.

CP Partners: ANDBC, SEHSCT, PHA, Libraries NI, PSNI, NIFRS and Third Sector HUB

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

40

Outcome 4 | Priority and Workstreams

All people in Ards and North Down benefit from a prosperous and inclusive economy

We work towards this outcome by addressing deprivation and working to ensure that people have the financial resources to meet their everyday needs. We work in partnership to grow our local economy by developing a skilled workforce, helping those who are furthest away from the labour market, increasing access to employment and investing in our infrastructure to support sustainable economic prosperity.

Priority 5: Employment, employability and economic inequalities

Prioritising employment and employability are important because a prosperous and inclusive economy requires a skilled and motivated workforce. In Ards and North Down there is a need to improve the quality of local jobs and encourage businesses requiring skilled labour to be located within the Borough. Employment, employability and economic inequalities also relate to priority 3, the determinants of health. There is a strong correlation between fulfilling employment and a person's wellbeing, due to both sense of purpose as well as having an income. Prioritising economic inequalities is important because this helps to create more stable and prosperous environments for everyone.

What our workstreams will focus on?

With funding from Department for Communities Ards and North Down has set up a local Labour Market Partnership (LMP). A strategic assessment of the labour market and employability within Ards and North Down is used to agree LMP activities and actions. The themes of the LMP action plan include economic inactivity, youth unemployment, disability and a skilled labour supply.

In developing its action plan, the LMP recognised the many barriers faced by individuals in obtaining employment and training, such as no suitable qualifications, poor skillset, no or little work experience, disability or other health problems, potential in reduction or loss of benefits from attending training, as well as issues to access affordable childcare and transport.

To help address these issues the LMP has established numerous academies including a Transport Academy, Classroom Assistant Academy and Disability Academy. Up-skilling programmes have been delivered along with workplace careers videos, enterprise readiness programmes and job fairs.

Research has been undertaken to understand what poverty looks like across Ards and North Down and to identify the barriers that exist. A Social Supermarket was piloted, and this was shown to be a useful tool to help address financial hardship in a sustainable way. Ards and North Down's Poverty Forum, and the Strategic Community Planning Partnership, are looking to develop practical and more strategic action plans that will help with some of the issues identified by the research which was carried out by collecting data within Ards and North Down.

CP Partners: ANDBC, Department for Communities, Invest NI, SERC, SEHSCT and Third Sector HUB

Outcome 5 | Priority and Workstreams

All people in Ards and North Down benefit from an environment that is valued, well-managed and accessible

We work towards this outcome by working in partnership with our communities to ensure they value our local environment and benefit from its sustainable management. By providing individuals and communities with opportunities to increase their own resilience they will be better prepared to deal with some of the environmental challenges, such as climate change, that they will increasingly have to face. Enriching people's access to and enjoyment of outdoor spaces by increasing access to sustainably managed spaces and promoting responsible recreation will create opportunities for people to improve their own health and wellbeing and to feel safe within their communities.

Priority 6: Environmentally Sustainable Communities

Prioritising sustainability is important because it not only protects our environment but also supports economic and social wellbeing. Thinking sustainably means considering the long-term implications of activities to ensure that everyone benefits. Prioritising the value placed on our environment is important because it provides us with food, water, and protection from the elements. We need to make space for people and nature to successfully co-exist.

What our workstreams will focus on?

We want Ards and North Down to be a sustainable tourism destination. Sustainable Tourism is about taking full account of our current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. We want to enable stakeholders to make more sustainable choices, ensure that local communities benefit from tourism activities, help tourism operators mitigate against and adapt to a changing climate and collect positive stories telling people about the impact of this.

Ards and North Down is a member of Sustainable Food Places and the Sustainable Food Workstream group has developed an action plan to align lots of aspects of the food systems including food security (poverty), nutrition, environmental sustainability and the public having access to space to grow their own. Much of this workstream also integrates across the other Big Plan priorities and workstreams. A Climate resilient communities workstream, incorporating the Sustainable Food Action Plan, will be developed.

We want to increase people's access to responsible use of outdoor spaces. Our Moved by Nature helps to promote this message. The interactive calendar has been created to highlight the ways people can use our local environment to look after own wellbeing. The Public Health Campaign 'Take 5 Steps to Wellbeing' is used to show the public how they can use nature to stay connected, keep learning, be active, take notice and give. The calendar is supported by a 'Moved by Nature' checklist of free activities, and it helps support the numerous other Big Plan priorities including determinants of health, economic inequality and welcoming spaces.

CP Partners: ANDBC, Tourism NI, NIEA (Historic Environment), SERC, National Museums NI, Ulster University, PHA, SEHSCT

Agenda 5 / Item 5 - Appendix 1 - The Big Plan - Outcomes, Priorities and ...

Back to Agenda

42

Names of Third Sector HUB Members (Correct at March 2025)

Ards and North Down's Community Planning Partnership is facilitated by
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Ards and North Down Borough Council

December 2024 Strategic Budget Report

Ards and North Down Borough Council
www.ardsandnorthdown.gov.uk

Strategic Budget Report

Category	Analysis Code		YTD Actual £'000	YTD Budget £'000	YTD Variance £'000	2024/25 Budget	Year End Forecast 3 £'000
Payroll	1		29,050	29,826	(776)	39,882	38,934
Waste Disposal	3		5,553	5,751	(199)	7,475	7,278
Energy	5		2,409	2,630	(222)	3,665	3,214
Maintenance	4		2,549	2,113	436	2,782	3,328
Capital Financing	2		5,755	5,841	(86)	8,782	8,667
Other Expenditure	9		12,120	11,291	829	16,525	18,849
Total Expenditure			**57,436**	**57,453**	**(17)**	**79,110**	**80,269**
Service Income	10		(10,047)	(9,330)	(717)	(12,855)	(14,038)
District Rates & General Grants	11		(48,998)	(48,547)	(451)	(66,196)	(66,798)
Non Service Income - EMF Appropriations	13		50	50	0	(558)	(590)
Total Income			**(58,996)**	**(57,828)**	**(1,168)**	**(79,610)**	**(81,425)**
Surplus			**(1,560)**	**(375)**	**(1,185)**	**(500)**	**(1,156)**

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Payroll

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
29,050	29,826	(776)
Vacancies Approx. vacant FTE posts over the payroll savings budget.	23 employees	**(745)**
Other Overtime / Casuals Miscellaneous	111 120	**231**
Impact of 24/25 actual pay rise		**(261)**

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46

Waste Disposal

NB November tonnages based on estimates

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000	Price	Volume
5,553	5,751	(199)	(66)	(132)
Landfill tonnage down 474 tonnes and lower gate than budget per tonne (£0.47 per tonne).	(73)		(11)	(62)
Blue bin waste up 24 tonnes plus slightly lower gate fee than budget (£0.51 per tonne)	(3)		(4)	1
Organics 1 (Garden) waste down 667 tonnes plus lower gate fee than budget (£1.72 per tonne)	(48)		(8)	(40)
Organics 2 (Food) waste up 907 tonnes which is partially offset by lower gate fee than budget (£2.09 per tonne)	33		(36)	70
Other waste streams – timber, paint, glass, street sweepings, rubble, plastics	(109)		(7)	(101)

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Energy

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
2,409	2,630	(222)
Vehicle fuel		(165)
Electricity – consumption slightly higher than budget		134
Gas		(163)
Heating Oil		(32)
Other		6

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Maintenance

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
2,549	2,113	436
Statutory Maintenance – highest spend to date - Ards Blair Mayne (**£103k**), Bangor Aurora (**£346k** – pool floors, diving pool and boom repairs), Comber LC (**£72k**), North Rd Depot (**£61k**), Londonderry Park (**£68k**)Bangor Waste Transfer Station (**£34k**).		418
Planned Maintenance – highest spend to date – Ards Blair Mayne (£40k).		18

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Other Expenditure

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
12,120	11,291	829
Insurance costs - premiums (£107k), self insurance (£459k)		511
Grant Payments - (Go Succeed Programme. Offset by additional grant income) and Contributions		267
Animal Welfare Service - no DAERA funding so far		64
Range of adverse variances across Services. Possibly budget profiling / timing.		(13)

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Service Income

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
(10,047)	(9,330)	(717)
Leisure – Ards Blair Mayne (£269k), Londonderry Park (£49K), Community Centres (£44K), NCLT Contract (£255K)		(637)
Economic Development - Go Succeed Grant income (offsets grant spend)		(218)
Parks & Cemeteries –cemetery income		(111)
Building Control		(60)
Investment Income		(79)
Wind Turbine		(91)
Planning Fees & Planning Property Certificates		248
Waste Services – trade waste & bulky waste collections		132
Off Street Car Parks		69

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51

District Rates & General Grants

YTD Actual £'000	YTD Budget £'000	YTD Variance £'000
(48,998)	(48,547)	(451)
LPS are indicating a positive 24/25 penny product finalisation		(472)
Estimated 24/25 DRG finalisation small clawback		21

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By Directorate

Directorate	Year to Date Actual £'000	Year to Date Budget £'000	Variance £'000	Annual Budget £'000	Year End Forecast £'000
Community & Wellbeing	7,770	9,221	(1,451)	12,899	11,992
Environment	20,832	21,142	(310)	28,331	27,603
Prosperity	3,552	3,669	(118)	5,159	4,881
Place	996	1,120	(123)	1,849	1,753
Corporate Services	7,346	7,250	97	9,265	9,721
Chief Executive	1,066	1,119	(52)	1,622	1,529
Payroll Savings Budget	0	(1,297)	1,297	(1,729)	
NET COST OF SERVICES	**41,563**	**42,224**	**(661)**	**57,396**	**57,479**
Non Service Income and Expenditure	(43,123)	(42,599)	(524)	(57,896)	(58,636)
Grand Totals	**(1,560)**	**(375)**	**(1,185)**	**(500)**	**(1,157)**

Unclassified

ITEM 6b

Ards and North Down Borough Council

Report Classification	Unclassified
Exemption Reason	Not Applicable
Council/Committee	Corporate Services Committee
Date of Meeting	11 February 2025
Responsible Director	Director of Corporate Services
Responsible Head of Service	Head of Finance
Date of Report	23 January 2025
File Reference	FIN165
Legislation	Local Government Finance Act (NI) 2011
Section 75 Compliant	Yes ☐ No ☐ Other ☒ If other, please add comment below: Not applicable
Subject	Prudential Indicators & Treasury Management – 2024/25 Qtr 3 Report
Attachments	

Introduction

In February 2024, Council approved its annual Capital and Treasury Management Strategies, including the setting of Prudential Indicators (PIs) for the current financial year ending 31 March 2025. These are statutory requirements in accordance with the Local Government Finance Act (NI) 2011, the CIPFA Prudential Code and the CIPFA Treasury Management Code.

The purpose of this report is to provide Members with an update on the PIs and treasury management activity as required by the CIPFA Codes, at the end of December 2024.

1.1 Capital - Expenditure & Financing

The PIs for capital expenditure and financing should ensure that, within a clear framework, the capital investment plans of the Council are affordable, prudent and sustainable. Updates to these PIs are set out below.

Not Applicable

Table 1.11	Original Forecast £M	Revised Forecast £M
Capital Expenditure 2024/25 (Current Year)	19.41	10.41

The original estimate of £19.41M has been revised to £10.41M, reflecting the capital expenditure that is now expected to be incurred by 31 March 2025. This is consistent with the deliverability risks outlined in the 2024/25 budget strategy, where it was reported that capital ambition is not being matched by delivery due to reasons including Officer resource, business readiness and planning and funding delays. The main schemes impacted by such risks for this reporting period are Bangor Waterfront, Greenways, Ward Park Redevelopment, 3G Pitches and the Digital Innovation Hub.

The revised capital expenditure forecasts for the three-year plan, together with the capital financing implications and previous year activity are summarised below.

	Actual	Revised Forecast		
	2023/24	2024/25	2025/26	2026/27
Table 1.12	£M	£M	£M	£M
Capital Expenditure	6.51	10.41	26.26	36.27
Financed by:				
Loans	4.20	3.99	14.91	21.16
Grants	1.36	5.33	8.75	14.55
Capital Receipts	0.62	1.07	1.95	0.46
Revenue/Reserves	0.33	0.02	0.65	0.10

1.2 Capital – Capital Financing Requirement and External Borrowings

The Council's cumulative outstanding amount of debt finance is measured by the Capital Financing Requirement (CFR). This increases with new debt-financed capital expenditure and reduces with MRP (minimum revenue provision). See section 1.4 for further information on MRP.

Statutory guidance is that debt should remain below the capital financing requirement, except in the short term. The Council has complied and expects to continue to comply with this requirement in the medium term as shown below.

	Actual	Revised Forecast		
	31/03/24	31/03/25	31/03/26	31/03/27
Table 1.2	£M	£M	£M	£M
Capital Financing Requirement (CFR)	75.07	76.78	83.90	96.96
External Gross Borrowing	(59.65)	(56.88)	(60.92)	(75.43)
External Gross Debt (Leases)	-	(4.14)	(3.79)	(3.46)
Under/(Over) Borrowing Requirement	**15.42**	**15.76**	**19.19**	**18.07**

Not Applicable

Gross Borrowing within CFR	Yes	Yes	Yes	Yes

The difference between the CFR and the Gross Borrowing figures represents the Council's underlying need to borrow (£15.76M 31/03/25 forecast) and indicates that historic capital expenditure has been temporarily financed from internal revenue resources. This has been made possible due to an increase in the Council's cash reserves in the current and previous years. The position has been similar for several years now with the Council last taking out long-term borrowings in November 2018.

1.3 Capital - Debt and the Authorised Limit and Operational Boundary
The Council is legally obliged to set an affordable borrowing limit each year, known as the 'Authorised Limit'. In line with statutory guidance, a lower 'operational boundary' is also set as a warning level should debt approach the limit.

The revised forecast for external gross borrowing (including leases) at 31 March 2025 is £61M (table 1.2). The Council is therefore forecast to remain well within both the Authorised Limit and the Operational Boundary set for the year as follows:

Table 1.3	2024/25
Authorised limit – borrowing	£ 88.93M
Operational boundary – borrowing	£ 83.93M

1.4 Capital - Revenue Budget Implications
Capital expenditure is not charged directly to the revenue budget. Instead, interest payable on borrowings and MRP (minimum revenue provision), together known as capital financing costs, are charged to revenue. These financing costs are compared to the net revenue stream i.e. the amount funded from District Rates and general government grants, to show the proportion of the net revenue stream which is made up of capital financing costs.

Table 1.4	2023/24 Actual	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast
Financing costs (£m)	£7.9M	£9.06M	£10.11M	£11.08M
Proportion of net revenue stream (%)	12.7%	13.7%	14.7%	15.4%

The forecast financing costs for 2024/25 is in line with the budget set for the year. The increase in the proportion of financing costs to the net revenue stream is due to the inclusion of 'right of use' assets in the financing costs from 1 April 2024 following a change in accounting rules. These costs were previously treated as operating leases and accounted for as revenue rental charges.

2.1 Treasury Management – Debt Activity
The following table summarises the position on long-term borrowings as of 31 December 2024.

Table 2.1				
Lender	**Balance 01/04/24**	**New Loans**	**Repayments**	**Balance 31/12/24**

Not Applicable

Dept of Finance	£ 53.38M	£ -	(£ 1.42M)	£51.96M
Banks (LOBOs)	£ 6.27M	£ -	£ -	£ 6.27M
Totals	**£ 59.65M**	**£ -**	**(£ 1.42M)**	**£ 58.23M**

The Council does not currently hold any short-term borrowings.

The revised capital financing requirement (table 1.2) shows that the Council could increase its level of external borrowings to £76.78M by 31 March 2025. However, an assessment of the Council's cashflow position forecasts that there will be adequate cash reserves to temporarily finance capital expenditure for the remainder of the current year and therefore no further borrowing is anticipated before 31 March 2025. After repayments on existing long-term loans are made during the remainder of 2024/25, the level of external borrowings on 31 March 2025 is forecast to be £56.9M. The average interest rate for the Council's total debt portfolio is 3.87%.

2.2 Treasury Management - Debt Related Treasury Activity Limits
The tables below show the position of all debt related treasury activity limits.

Table 2.21		
Interest rate exposures	**Limit 2024/25**	**Actual at 31/12/24**
Quantity of debt held at variable interest rates - upper limit	30%	2%
Quantity of debt held at fixed interest rates - upper limit	100%	98%

Table 2.22			
Maturity structure of fixed interest rate borrowing	**Lower Limit 2024/25**	**Upper Limit 2024/25**	**Forecast 2024/25**
Under 12 months	0%	15%	4.7%
12 months to 2 years	0%	15%	6.0%
2 years to 5 years	0%	20%	13.8%
5 years to 10 years	0%	30%	27.2%
10 years and above	30%	90%	48.3%

2.3 Treasury Management - Investment Activity
The objectives of the Council's investment strategy are safeguarding the repayment of the principal and interest on its investments on time, with the investment return being a secondary objective. The current investment climate continues to be one of overriding risk consideration, particularly that of counterparty risk. In line with advice provided by treasury management consultants, officers continue to implement an operational investment strategy of placing short-term investments with approved high-quality counterparties.

Not Applicable

For the period from 1 April to 30 September 2024, Council has earned interest of £321K on investment deals with approved financial institutions as summarised below:

Table 2.31	Average Deposit Size	Average Term	Average Interest Rate	Interest Earned
CCLA Public Sector Deposit Fund	£3.02m	Call A/c	5.04%	£114,802
Invesco Investment Mgt Ltd	£2.97m	Call A/c	5.04%	£113,007
State Street Global Advisors	£3.02m	Call A/c	5.02%	£114,471
Barclays Bank	£1.66m	Call A/c	4.82%	£57,888
Bank of Scotland	£2.31m	Call A/c	4.94%	£78,756
Santander	£1.10m	Call A/c	3.13%	£4,862
Totals				**£483,786**

This compares favourably to the budget set for the same period of £397K, resulting in a favourable variance of £87K.
The total balance of funds held in investment accounts at 31 December 2024 was £11.5M.
The table below shows the risk and return metrics on the Council's investments held at 31 December 2024 against other NI Councils.

	Counterparties	Investments	
Table 2.32	Credit Rating	Liquidity: (< 7 days)	Rate of Return (%)
ANDBC	A+	100%	4.71%
NI Council Average	A+	49%	4.66%

Source: Arlingclose Ltd Local Authority Quarterly Investment Benchmarking report Dec-24

The Council's limit for total principal sums invested for periods longer than 364 days is £500k. The Council has not entered into any such investments.

RECOMMENDATION

It is recommended that Council notes this report.

Unclassified

58

ITEM 7a

Ards and North Down Borough Council

Report Classification	Unclassified
Exemption Reason	Not Applicable
Council/Committee	Corporate Services Committee
Date of Meeting	11 February 2025
Responsible Director	Director of Corporate Services
Responsible Head of Service	.
Date of Report	24 January 2025
File Reference	NOM 643 - Rise in National Insurance Payments
Legislation	'-
Section 75 Compliant	Yes ☒ No ☐ Other ☐ If other, please add comment below:
Subject	NOM 643 - Rise in National Insurance Payments
Attachments	* Letter to Department of Finance * Letter from the Department of Finance

A Notice of Motion was discussed and agreed by Council at their meeting on 18 December 2024.

"That Council notes the recent changes to National Insurance made by the Chancellor of the Exchequer Rachel Reeves that increased employer's contributions from 13.8% to 15% and also reduced the threshold at which NI is paid from £9,100 to £5,000. This increased tax on jobs will have a detrimental impact on all areas of the economy. The implication for this Council is an unbudgeted £1.2 million increase in our cost base which works out at a potential 2% increase for ratepayers."

A letter was sent from the Chief Executive to the Department of Finance on 2 January 2025.   A reply was received on 23 January 2025 and a copy is attached.

RECOMMENDATION

It is recommended that Council notes the response.

Minister Archibald
Department of Finance
Clare House
303 Airport Road
Belfast
BT3 9ED

Sent via email only: caoimhe.archibald@mla.niassembly.gov.uk

2 January 2025

Dear Minister,

National Insurance Contributions

At the December meeting of the Ards and North Down Borough Council, the Council noted recent changes to National Insurance made by the Chancellor of the Exchequer Rachel Reeves that increased employers' contributions from 13.8% to 15% and reduced the threshold at which National Insurance is paid from £9,100 to £5,000. It is the Council's view that this increased tax on jobs will have a detrimental impact on all areas of the economy, noting that it will be particularly challenging for certain sectors such as tourism and hospitality, which make up a significant proportion of jobs within the Borough. Indeed, the Council is extremely concerned for the ongoing viability of these sectors and the jobs they support.

Furthermore, the Council is extremely concerned for the additional financial burden this increased tax puts onto Local Authorities. The implication for this Council is an unbudgeted £1 million increase in our cost base which works out at a potential 1.6% increase for ratepayers.

The Council also noted that The Chancellor has stated that she will compensate the public sector to cover the increase. Therefore, it is expected that the Northern Ireland Executive will receive a Barnett Consequential payment accordingly.

Thus, the Council have asked that on their behalf, I write to you to obtain your reassurance and guarantee that local government in Northern Ireland will receive compensation and confirm that the burden will not fall on ratepayers.

I look forward to your response.

Yours sincerely,

Susie McCullough
Chief Executive

Ards and North Down Borough Council   **0300 013 3333**   **Susie McCullough**
City Hall, The Castle   enquiries@ardsandnorthdown.gov.uk   **Chief Executive**
Bangor, BT20 4BT   www.ardsandnorthdown.gov.uk

From the Minister of Finance

Department of
Finance
An Roinn
Airgeadais
www.finance-ni.gov.uk

Susie McCullough
Chief Executive
Ards and North Down Borough Council

Susie.McCullough@ardsandnorthdown.gov.uk

Private Office
2nd Floor
Clare House
303 Airport Road West
BELFAST
BT3 9ED
Tel: 028 9081 6116
Email: private.office@finance-ni.gov.uk

Our reference: *COR-0001-2025*

Date: *23 January 2025*

Susie, a chara,

NATIONAL INSURANCE CONTRIBUTIONS

Thank you for your letter of 13 January in respect of this issue. The increase in national insurance contribution will prove incredibly challenging for our local businesses, community and voluntary sector as well as for public sector employers including local councils.

The Executive, like the devolved Governments in Scotland and Wales, does not have the financial capacity to compensate for decisions made on reserved taxation matters.

While the Chancellor has said that support will be provided for public sector employers, this is likely to fall far short of what is needed possibly by some £100 million pounds.

The Department does not have a confirmed estimate from Treasury as yet in relation to the quantum of funding we will receive. I have written to the Chief Secretary to the Treasury to stress the urgent need for clarity on this and to stress that the cost for public sector employers must be met in full.

Agenda (a) / Item 7a - Appendix 2 - Response to NOM re Rise in National I...

Back to Agenda

61

I am aware there is some confusion in respect of the announcement in England of £515 million for local authorities. This announcement did not relate to new funding and as such will not generate additional Barnett.

Is mise le meas,

DR CAOIMHE ARCHIBALD MLA
MINISTER OF FINANCE

Agenda (b) / Item 7b - Response to Notion of Motion 642 - Proposed closur...

Back to Agenda

Unclassified

ITEM 7b

Ards and North Down Borough Council

Report Classification	Unclassified
Exemption Reason	Not Applicable
Council/Committee	Corporate Services Committee
Date of Meeting	11 February 2025
Responsible Director	Chief Executive
Responsible Head of Service	
Date of Report	03 February 2025
File Reference	
Legislation	
Section 75 Compliant	Yes ☒ No ☐ Other ☐ If other, please add comment below:
Subject	Response to Notion of Motion 642 - Proposed closures of Newtownards and Bangor Post Offces.
Attachments	Appendix 1 - Information from Mark Gibson, External Affairs Manager for the Post Office

Background

The following Notice of Motion was agreed by Council at its meeting in November 2024:

"That this Council expresses its concern at the decision of the post office to propose to close its branches in Main Street, Bangor and Frances Street, Newtownards as part of a widened UK overhaul. We would call on the Post office to reverse this decision and meet with Council at the earliest opportunity to discuss the proposal and the impact it will have on staff and customers. This Council notes how important post office services are to our communities and the huge role it plays in serving constituents."

On 27 January 2025 the Chief Executive met with Mr Gibson, External Affairs Manager of the Post Office.

Agenda (b) / Item 7b - Response to Notion of Motion 642 - Proposed closur...

Back to Agenda

63

Not Applicable

Currently across the UK the Post Office owns and directly runs 108 Post Offices with a further 11,400 privately franchised, owned and operated by Post Masters. Bangor and Newtownards Post Offices are within the 108 owned and operated by the Post Office, two of only a small number in Northern Ireland. The buildings from which Bangor and Newtownards Post Offices operate are leased by the Post Office from Royal Mail. (Full list of Post Offices in the Borough as provided by Mr Gibson is included in Appendix 1.)

Bangor Post Office has 7 staff and operates a 46-hour week. There are two other franchised Post Offices within a 1-mile radius. Usage of the Bangor Post Office has experienced a 40% decline in recent years. Newtownards Post Office has 7 staff and operates a 46-hour week, with four other franchised Post Offices within a 1-mile radius. It reports 44% decline in usage.

The Post Office is undertaking a company review on the provision of its Post Office services. Their key objective is for Post Masters to have a bigger say in day-to-day operations and a future £120m remuneration to be found, raising to £250m by 2050, to further support Post Masters. The Post Office hope to make an announcement on this review mid-march, which will include any decisions on the future of Newtownards and Bangor Post Offices.

The Chief Executive outlined the importance of the Post Offices in Bangor and Newtownards, both in terms of the provision of the services they provide to local residents and businesses, as well as the role they place in driving footfall and the regeneration of our town and city.

Depending on the decision made by the Post Office, there may be an opportunity for Council to meet with both the Post Office and Royal Mail (owner of the building) to understand what the potential solutions may be to encourage investment / additional uses for the buildings, which could potentially include a franchised post office service, and the Chief Executive intends to reach out to both organisations in this regard. Mr Gibson has also offered to attend a future Council meeting to give an explanation to any future decisions. A further report will be brough to Council following the Post Office review decision.

RECOMMENDATION

It is recommended that the Council note the report.

National Risk Register

2025 edition

HM Government

Contents

Contents

Foreword

The Government's first responsibility is to keep the public safe: our security and resilience as a country underpins our Plan for Change and all our Missions. We must be prepared for the range of risks that the UK faces. So I am pleased to present this updated National Risk Register (NRR), reflecting the Government's latest risk assessments.

Since day one of this administration, national resilience has been a top priority. We have taken some immediate steps to strengthen the system. The Prime Minister established a dedicated Cabinet committee on resilience, that I chair. We have brought in external experts to examine our classified risk assessments, on which this publication is based, to challenge our thinking. And we have taken forward a National Exercising Programme to ensure our plans are as strong as they can possibly be.

The UK Covid-19 and Grenfell Tower Inquiries have made important recommendations on the UK's resilience system, including how the Government assesses and manages risks. These tragedies demonstrated painfully clearly that our country was not as prepared as it should have been. The Government has now published its response to the Covid-19 Inquiry Module 1 report on resilience and

preparedness, setting out how we will address its findings and recommendations. We will continue with the review of national resilience that I announced to Parliament last year as a direct and immediate response to the Module 1 report. As part of this we are listening to those in society whose voices too often go unheard.

The risks we face are ever changing, and our assessments must keep pace. Events last year underscored the importance of anticipating and understanding these risks. Whether that was disorder on the streets or the impact of severe weather. The CrowdStrike IT outage revealed the widespread impacts of technology failure on services essential to our daily lives. Elsewhere we have seen the devastating floods in Valencia, and huge wildfires in the US, underlining the risks different countries face.

The National Risk Register is based directly on the internal, classified National Security Risk Assessment, which has now shifted to a dynamic assessment process. This means that risks can be updated as frequently as needed, driven by better evidence or our understanding of real-world changes. This edition of the NRR captures the first wave of updates under this dynamic process.

This Government is committed to sharing risk information as openly as possible, to support all those working to build the UK's resilience with their planning, preparation and response activity. Greater transparency also means that people can scrutinise our assessments, challenging us to do things differently when needed. We need everyone to play their part in building resilience – so this National Risk Register underpins the public guidance at GOV.UK/Prepare, which sets out the simple and effective steps we can all take to prepare for emergencies.

I encourage all risk and resilience professionals to consider the risks in this publication, and join our collective endeavour to make the UK more prosperous and resilient.

The Rt Hon Pat McFadden MP
Chancellor of the Duchy of Lancaster

Chapter 1

Introduction

Introduction

The National Risk Register (NRR) is the external version of the National Security Risk Assessment (NSRA), which is the government's assessment of the most serious risks facing the UK.

The UK faces a broad and diverse range of risks, including threats to lives, health, society, critical infrastructure, economy and sovereignty. Risks may be non-malicious, such as accidents or natural hazards, or they may be malicious threats from malign actors who seek to do us harm.

The risks that meet the threshold for inclusion in the NRR would have a substantial impact on the UK's safety, security and/or critical systems at a national level. The NRR includes information about 89 risks, within 9 risk themes – although several risks could be categorised under more than one theme. These are:

- Terrorism
- Cyber
- State Threats
- Geographic and diplomatic
- Accidents and systems failures

- Natural and environmental hazards
- Human, animal and plant health
- Societal
- Conflict and instability

The NRR assesses the likelihood and impact for each risk, following a rigorous and well-tested methodology (see Chapter 2). Risks can manifest in different ways, with different levels of severity. To ensure the UK is prepared for a broad range of scenarios, the NRR sets out a **'reasonable worst-case scenario'** for each risk. These scenarios are not a prediction of what is most likely to happen, instead they represent the worst plausible manifestation of that particular risk (once highly unlikely variations have been discounted). Relevant bodies consider many variations of scenarios at the planning stage. The NRR includes information on the capabilities required to respond to and recover from the emergency, should the risk materialise.

These are not the only risks facing the UK. The NRR focuses on 'acute' risks, which are discrete events requiring an emergency response.

In addition, the UK faces a range of serious 'chronic' risks, which are long-term challenges that gradually erode our economy, community, way of life, and/or national security. To make the NRR most usable by resilience practitioners, these 'chronic' risks are not included in the NRR. This is a reflection of the need for a separate process for identifying and managing these risks. The government has established a new process for identifying and assessing these risks, which is a separate process to the National Security Risk Assessment.

The NRR is based directly on the NSRA – an internal, classified risk assessment that is used within government and by local resilience forums and their equivalents in Scotland and Northern Ireland. The NSRA is produced using a rigorous and well-tested methodology, based on international best practice. It draws on input and challenge from hundreds of experts from UK Government departments, the devolved governments, the government scientific community, intelligence and security agencies, and independent experts.

What is different in this edition?

The NSRA now operates as a dynamic assessment process, with risks reassessed on a more regular basis to reflect the changing risk landscape. The NRR aligns with this change and this and future updates will draw from the latest risk information available.

Table 1 sets out the key changes made to the NRR risk summaries based on updates made to the NSRA since the last NRR was published in August 2023. Minor additional changes made to the text in the NRR have been made for clarity reasons, to correct minor drafting errors or to bring the document up to date – these are not featured in the table as they have not been part of the NSRA reassessment. An example of this type of change is on page 52 'Cyber attack: health and social care sector', in which the background lines now include a more recent 2024 cyber incident as an example.

Table 1: Key changes to the National Risk Register since the last version (published August 2023)

Risk	Description of change
Cyber attack: health and social care system	Scenario has been updated
Cyber attack: transport sector	Scenario has been updated
Conventional attack on infrastructure (combined score on the matrix – average of multiple scenarios)	Likelihood score has changed from a 4 to a 3
Disruption of Russian gas supplies to Europe	Scenario has been updated
Disruption to global oil trade routes	Likelihood score has changed from a 2 to a 3
Failure of gas supply infrastructure	Scenario has been updated
Malicious drone incident	Matrix has been removed from this version
Volcanic eruption	Variations have been updated
Wildfire	Variations have been updated
Animal disease: major outbreak of highly pathogenic avian influenza	Variations have been updated
Animal disease: major outbreak of African swine fever	Impact score has changed from a 2 to a 3

COVID-19 Pandemic

The most significant risk to materialise in the UK in recent years has been the COVID-19 pandemic. This has impacted all aspects of society and will have consequences into the future.

The risk of a pandemic has long been identified as one of the most serious risks facing the UK. The reasonable worst-case scenario used for planning purposes has, in versions of the NRR published prior to 2023, been based on an influenza-like illness pandemic. Any new pathogen transmitted by the respiratory route is likely to share characteristics with influenza in that it can spread rapidly via close proximity, can travel rapidly and there are few easy immediate countermeasures. It has therefore been a planning assumption that a plan for pandemic influenza would have considerable overlap with a plan for other diseases easily transmitted by the respiratory route.

The lessons from COVID-19 have been incorporated into the government's risk assessment methodology and the UK government will continue to strengthen its approach to risk identification and assessment. For example, reshaping reasonable worst-case scenarios to include multiple and varied scenarios when assessing the impacts of risks, including additional impacts, measures and data where appropriate, and updating and adding risks in response to changes to the risk landscape or when new evidence emerges as part of the dynamic process.

How does the government plan for risk?

The government has comprehensive plans to build resilience to specific risks, including those set out in the NRR. However, no risk assessment will ever be able to identify and assess every possible risk. The NSRA uses common consequences of risks – such as mass fatalities and casualties, contaminated environments and disruption to a range of critical services. The government develops generic capabilities that can be used to respond to these impacts, regardless of the risk that caused them. This means the government can respond flexibly to the widest range of risks.

Although the UK Government has an important role to play in assessing and planning for risks, the local level is critical to the UK's resilience. The 38 Local Resilience Forums (LRFs) in England, the 4 LRFs in Wales, 3 Regional Resilience Partnerships (RRPs) in Scotland and Emergency Preparedness Groups in Northern Ireland play a critical role in bringing local responders, such as the emergency services, together to plan for risks. Local resilience partners produce Community Risk Registers (CRRs), which focus on the highest priority risks in each local area. The NRR should be read in conjunction with the CRR for the relevant local area.

Who should use the National Risk Register (NRR)?

The NRR is designed for a broad range of risk and resilience practitioners. This includes, but is not limited to:

- Practitioners, including in voluntary and community sector organisations, who may play a central role in planning for and responding to emergencies and crises but who may not have formal contingency planning responsibilities.

- Businesses, including small- and medium-sized enterprises, and those who operate critical national infrastructure (CNI), who have a need to understand the most serious risks that could impact their business continuity.

- Academics and experts from a wide range of disciplines and backgrounds, who play a critical role by providing external challenge.

This edition of the NRR is not targeted at the general public. Advice for individuals, households and communities on preparing for a wide range of risks can be found on GOV.UK/Prepare.

The government (at both the national and local level) also provides tailored guidance and communications to help people understand the risks that are most likely to affect them, and the specific actions they can take to protect themselves via specific campaigns. For example:

- The 'Run, Hide and Tell' campaign helps people stay safe in the event of a marauding terrorist attack.

- The 'WeatherReady' campaign helps individuals, families and communities prepare for and cope with severe weather.

- The 'Cyber Aware' campaign provides advice on how to stay secure online.

In addition, the UK Government's Emergency Alerts service is used to issue urgent messages to mobile phones when there is a live or imminent risk to life and specific instructions on how to respond are required. While the alerting service has already been used in practice as part of the Government's severe weather and flood warning response capabilities, it also serves a wider purpose; it can be used to support emergency response in a range of scenarios such as public health emergencies, fires, and in the case of Plymouth in February 2024, a residential evacuation.

Chapter 2

Risk assessment methodology and matrix

Risk assessment methodology and matrix

The 2025 NRR is based directly on the government's internal NSRA. The NSRA now operates on a dynamic process, where new risks can be added in the NSRA on a more regular basis to reflect the changing risk landscape. The NRR aligns with this change and will be updated on a dynamic basis to ensure the latest risk information is available.

How are risks identified and assessed?

Risks were identified for inclusion in the NSRA by consulting a wide range of experts from across UK Government departments, the devolved governments, the government scientific community and outside of government (for example, in partner agencies, academic institutions and industry). Risks are owned by departments or other government organisations, who are responsible for assessing the impact and likelihood of their risks.

Risks in the NSRA and NRR are assessed as 'reasonable worst-case scenarios'. These scenarios represent the worst plausible manifestation of that particular risk (once highly unlikely variations have been discounted) to enable relevant bodies to undertake proportionate planning. The scenarios for each risk were produced in consultation with experts and data was collected from a wide range of sources.

As set out in Chapter 1, the NSRA does not aim to capture every risk that the UK could face. Instead it aims to identify a range of risks that are representative of the risk landscape and can serve as a cause-agnostic basis for planning for the common consequences of risks.

Assessing likelihood

Government departments and agencies responsible for assessing non-malicious risks (for example, severe weather events or accidents) assessed the likelihood of their reasonable worst-case scenario occurring within the assessment period (which is 5 years for non-malicious risks and 2 years for malicious risks) using extensive data, modelling, and expert analysis. The resulting likelihood (expressed as a percentage) is then scored on a scale from 1 to 5, where a score of 1 represents the lowest likelihood and 5 represents the highest likelihood.

The likelihood of malicious risks (for example, terrorist attacks or cyber attacks) is assessed differently, with scores being calculated via the Professional Head of Intelligence Assessment (PHIA) yardstick (see Table 2 to the right). The intent of malicious actors to carry out an attack is balanced against an assessment of their capability to conduct an attack and the vulnerability of their potential targets to an attack. These 3 parameters, informed by data and expert insight, are collated together to form one likelihood score (expressed as a percentage), which is comparable with the likelihood of the non-malicious risks and can be plotted on the same matrix.

Likelihood is presented as the percentage chance of the reasonable worst-case scenario occurring at least once in the assessment timescale and is scored on a 1-5 scale. For both malicious and nonmalicious risks, a 1-5 score is evaluated on the following scale:

Table 2: Summary detailing the alignment of the final 1-5 likelihood score for NSRA risks, its corresponding percentage chance and the label using the PHIA yardstick.

Score	Percentage chance	PHIA yardstick designation
5	>25%	Almost certain (95-11%) Highly likely (80-90%) Likely or probable (55-75%) Realistic probability (40-50%) Unlikely (25-35%)
4	5-25%	Highly unlikely (5-25%)
3	1-5%	Remote chance (0-5%)
2	0.2-1%	
1	<0.2%	

We use a scale of 1 to 5 for both malicious and non-malicious risks to allow like-for-like comparison between risks, and as a tool to help effective risk visualisation. The highest score (5) represents a greater than 25% likelihood. The reason that this number is relatively low is that all risks in the NSRA are relatively low likelihood events.

Assessing impact

All risks in the NSRA have a wide range of impacts, whether on individuals, businesses, regions or the whole country. To capture this range, the NSRA assesses impact across 7 broad dimensions:

- The impact on **human welfare**, including fatalities directly attributable to the incident, casualties resulting from the incident (including illness, injury and mental health impacts), and evacuation and shelter requirements.

- **Behavioural impacts**, including changes in individuals' behaviour or levels of public outrage.

- The impact on **essential services**, including disruption to transport, healthcare, education, financial services, food, water, energy, emergency services, telecommunications and government services.

- **Economic damage**, including numbers of working hours lost.

- **Environmental impact**, including damage to the environment.

- The impact on **security**, including on law enforcement agencies, armed forces, border security, and the criminal justice system.

- **International impacts**, including damage to the UK's international relations and ability to project soft power, disruption to international development, violation of international law and norms, and international displacement and migration.

In addition to the impacts listed, qualitative data is collected on the disproportionate impacts of the reasonable worst-case scenarios on vulnerable individuals and groups. In accordance with the Public Sector Equality Duty, risk-owning government departments and agencies are required to pro-actively consider how they can contribute to the advancement of equality and the prevention of discrimination by taking into account the potential effects of their policies, functions, and service delivery on groups with protected characteristics. They are encouraged to go further than the defined list of protected characteristics and to collect data to inform their assessments.

The assessment and scoring of a risk focus primarily on domestic impacts – even where the risk occurs internationally. Each of the dimensions listed left is scored on a scale of 0 to 5 based on the scope, scale and duration of the harm that the reasonable worst-case scenario could foreseeably cause (see Table 3 on page 14 for a selection of example impact scale indicators). These scores are then combined to provide a single overall impact score.

Table 3: Example impact scale indicators for fatalities, casualties and economic cost

	Impact				
	1	**2**	**3**	**4**	**5**
Fatalities	1-8	9-40	41-200	201-1,000	>1,000
Casualties	1-18	17-80	81-400	400-2,000	>2,000
Economic cost	Millions of £	Tens of millions £	Hundreds of millions £	Billions of £	Tens of Billions £

Expert challenge

To ensure that the assessment process is robust, risks are reviewed by a network of experts. These include professionals from industry, charities and academia, as well as subject matter experts within government. The role of experts is to provide challenge by:

- Supplementing, clarifying or refining the submitted information;

- Identifying areas of uncertainty;

- Helping to resolve inconsistencies in the scoring of impact;

- Helping to improve communication of impact information; and

- Identifying long-term trends that provide context to the submitted risk.

Risk matrix

The likelihood and impact of risks are plotted onto a matrix, enabling users to compare risks and inform contingency planning. The NRR matrix below presents the impact and likelihood of a plausible worst-case scenario manifestation of each risk. To enable large differences in impact and likelihood to be shown on the same matrix, non-linear scales have been used. This allows the overall risk landscape to be compared.

The vertical axis shows the impact of each risk. A score of 1 corresponds to the lowest impact, and a score of 5 corresponds to the highest impact. The impact scale is logarithmic and is reflected by the matrix boxes increasing in size.

The horizontal axis shows the likelihood of each risk occurring at least once in the assessment period (2 years for malicious risks, 5 years for non-malicious risks).

The likelihood scale is logarithmic and is reflected by the matrix boxes increasing in size, moving from the bottom left of the matrix to the top right. A score of 1 corresponds to the lowest likelihood, and a score of 5 corresponds to the highest likelihood. The likelihood range in each column, moving from left to right, is 5 times greater than the previous column. For example, a score 3 risk is approximately 5 times more likely to occur than a score 2 risk.

Uncertainty is an inherent aspect of risk assessment. Impact and likelihood scores are given a confidence rating that takes account of:

- Quality and reliability of the evidence base
- Assumptions used in the analysis and;
- External factors that may affect impact and likelihood for example, global events

Uncertainty in the assessment of the risk is represented on the main summaries for the risks in Chapter 4, by the lines extending from the plotted dot on each page.

Although a majority of individual risks have been plotted onto the matrix, a number of the most sensitive risks have been thematically grouped, bringing together risks that share similar risk exposure and require similar capabilities to prepare, mitigate and respond. This has been done in order to strike the best possible balance between being transparent about risk information while protecting sensitive information, for example relating to national security or commercial considerations. The position of each grouped risk on the matrix below is an average of the impact and likelihood scores of all the different risks that belong to that category.

Additional scenarios are provided for a given risk if they would result in substantially different impacts or require significantly different planning. Risks that are marked with a number and a letter represent multiple scenarios of the same risk. For example, the flooding risks are 51a, b and c (coastal, fluvial and surface water flooding respectively).

The response capability requirements listed in the text are nonexhaustive. They are intended to provide a high-level overview of the potential response capability that may be needed.

Impact	Likelihood 1 <0.2%	2 0.2-1%	3 1-5%	4 5-25%	5 >25%
5 Catastrophic	28, 29		7, 26a	54	
4 Significant	21	24, 38, 56a	10, 27, 49, 51a, 51b, 51c, 61	47, 50, 55, 63	
3 Moderate	17, 32, 33, 34, 35, 36, 56c	23, 52	12, 25, 26b, 31a, 45, 53, 56b, 56d	4, 9, 11, 40, 43, 48, 60	3, 31b, 46, 62
2 Limited	18, 19, 30, 37	5, 16, 41, 42	14, 20, 58, 59	8, 13, 57b	2, 6
1 Minor	44	39		15	1, 57a

Likelihood

Terrorism

1 International terrorist attack with strategic implications
2 Northern Ireland related terrorism
3 Terrorist attacks in publicly accessible locations
4 Terrorist attacks on transport
5 Strategic hostage taking
6 Assassination of high-profile figure
7 Larger scale CBRN attacks
8 Smaller scale CBRN attacks
9 Medium scale CBRN attacks
10 Conventional attacks on infrastructure
11 Cyber attacks on infrastructure

Geographic and diplomatic

12 Disruption to global oil trade routes

Accidents and systems failures

13 Major adult social care provider failure
14 Insolvency of supplier(s) of critical services to the public sector
15 Insolvency affecting fuel supply
16 Rail accident
17 Large passenger vessel accident
18 Major maritime pollution incident
19 Incident (grounding/sinking) of a vessel blocking a major port

20   Accident involving high consequence dangerous goods

21   Aviation collision

23   Disruption of space-based services

24   Loss of Positioning, Navigation and Timing (PNT) services

25   Simultaneous loss of all fixed and mobile forms of communication

26a   Failure of the National Electricity Transmission System (NETS)

26b   Regional failure of the electricity network

27   Failure of gas supply infrastructure

28   Civil nuclear accident

29   Radiation release from overseas nuclear site

30   Radiation exposure from transported, stolen or lost goods

31a   Technological failure at a systemically important retail bank

31b   Technological failure at a UK critical financial market infrastructure

32   Accidental fire or explosion at an onshore major hazard (COMAH) site

33   Accidental large toxic chemical release from an onshore major hazard (COMAH) site

34   Accidental fire or explosion on an offshore oil or gas installation

35   Accidental fire or explosion at an onshore fuel pipeline

36   Accidental fire or explosion at an onshore major accident hazard pipeline

37   Accidental work-related (laboratory) release of a hazardous pathogen

38   Reservoir/dam collapse

39   Water infrastructure failure or loss of drinking water

40   Food supply contamination

41   Major fire

Natural and environmental hazards

42   Wildfire

43   Volcanic eruption

44   Earthquake

45   Humanitarian crisis overseas - natural hazard event

46   Disaster response in the Overseas Territories

47   Severe space weather

48   Storms

49   High temperatures and heatwaves

50   Low temperatures and snow

51a   Coastal flooding

51b   Fluvial flooding

51c   Surface water flooding

52   Drought

53   Poor air quality

Human, animal and plant disease

54   Pandemic

55   Outbreak of an emerging infectious disease

56a   Animal disease - major outbreak of Foot and Mouth Disease

56b   Animal disease - major outbreak of highly pathogenic avian influenza

56c   Animal disease - major outbreak of African horse sickness

56d   Animal disease - major outbreak of African Swine Fever

57a   Major outbreak of plant pest - *Xylella fastidiosa*

57b   Major outbreak of plant pest - *Agrilus planipennis*

Societal

58   Public disorder

59   Industrial action

60   Reception and integration of British Nationals arriving from overseas

Conflict and instability

61   Deliberate disruption of UK space systems and space-based services

62   Attack on a UK ally or partner outside NATO or a mutual security agreement requiring international assistance

63   Nuclear miscalculation not involving the UK or its allies

Chronic risks

Chronic risks are distinct from acute risks in that they pose continuous challenges that erode our economy, community, way of life, and/or national security. Generally, but not always, these manifest over a longer timeframe. While chronic risks also require robust government-led responses, these tend to be developed through strategic, operational or policy changes to address the challenges rather than emergency civil contingency responses. Acute risks on the other hand are risks that may require an emergency response from government, such as wildfires or biological attacks.

Chronic risks can make acute risks more likely and serious – for example, climate change can lead to an increase in the frequency and severity of weather conditions that cause floods and wildfires. Antimicrobial resistance (AMR) has the potential to exacerbate the risk of infectious diseases, for example a pandemic occurring in an environment of ineffective antibiotics could result in higher deaths from secondary bacterial infections. Another risk being examined by the government is artificial intelligence (AI). Advances in AI systems and their capabilities have a number of implications spanning chronic and acute risks; for example, it could cause an increase in harmful misinformation and disinformation, or if handled improperly, reduce economic competitiveness.

The chronic risks were last included in the National Risk Register in 2020. This is due to chronic risks no longer being included in the National Security Risk Assessment (NSRA). The NRR is the external version of the NSRA and therefore has aligned with this change.

Due to the systemic and enduring nature of chronic risks, traditional probabilistic impact assessments are made less effective. The government has therefore established a new process for identifying and assessing a wide range of chronic risks. The methodology utilises futures and systems thinking to help policy makers understand the potential implications of these risks on their policy areas, and develop appropriate mitigations.

This analysis is currently an internal, classified document. Table 4 presents the list of chronic risks identified by this process.

Table 4: List of chronic risk themes and drivers

Theme	Drivers of chronic risk
Security	Changes in the nature of terrorism
	Changes in the nature of serious and organised crime
	Fraud and illicit finance
Technology and Cybersecurity	Changes in the nature of cybersecurity threats
	Impacts from the use of end-to-end encryption
	Impacts from reliance on digital platforms and digital services for services and interactions
	Concentration of risk through dominance of global tech
	Impacts from use and capability of artificial intelligence (AI)
Geopolitical	Challenges to international institutions
	State threats
Environmental	Climate change
	Biodiversity loss
	Increasing competition for critical materials
	Pollution and environmental degradation

Theme	Drivers of chronic risk
Societal	Impacts from demographic change
	Disproportionate impact on vulnerable persons
	Disinformation and misinformation
Biosecurity	Antimicrobial resistance (AMR)
	Animal disease
	Foodborne disease
	Plant pests
	Impacts from expansion of engineering biology
	Impacts from collection and use of biological data
Economic	Impacts from reliance of global supply chains
	Impacts from emerging financial systems
	Skills shortages and mis-matches

Chapter 3

Individuals and communities

83

Individuals and communities

Preparedness advice

> The information included here is for organisations that might have a role in communicating preparedness to members of the public or to employees.

There are a number of actions individuals can take to prepare for and respond to risks. It is important for people to consider these in the context of their own specific circumstances and daily routines, as well as the risks they may face when living or working in certain locations.

In May 2024, the Government published advice for individuals, households and communities on GOV.UK/Prepare on preparing for emergencies, including a number of low and no cost options. The Prepare website also includes specific advice for disabled persons and carers.

For advice specific to Scotland, the Ready Scotland website contains information on preparing for and responding to emergencies affecting Scotland.

More information about the risks in a specific area can be found in local community risk registers:

- Community risk registers in England and Wales

- Community risk registers in Scotland

Preparedness tips from GOV.UK/Prepare

Below are five simple steps people could consider taking to improve their preparedness for emergencies. More can be found on GOV.UK/Prepare, including advice related to specific risks (e.g. power cuts and fires). Taking action now will make it easier to manage if an emergency does happen.

1. Find out if you are eligible to sign up to your gas, electricity and water supplier's Priority Service Registers, so they know that you need additional support, including when there is an interruption to your supply. Ask anyone you provide care for if they are registered.

2. Set a reminder in your phone or make a note on your calendar to check your smoke alarms at least once a month. You can involve children in the monthly test too.

3. Write down important phone numbers on paper such as the number to report a power cut (105) and the numbers of anyone you might want to contact in an emergency. Use our downloadable and printable household emergency plan to record this information in one document.

4. Talk to your children about emergencies – teach them how and when to call 999 and what they should do if there's an emergency, such as a fire at home.

5. Check your long term flood risk and sign up for flood and weather warnings.

During an emergency

In the event of an emergency, the public can play a vital role by alerting the emergency services (dialling 999) and by providing first aid, comfort and support while waiting for the emergency services to arrive.

Depending on the nature of the incident, those affected may be asked to 'go in, stay in and tune in' to local radio stations or check official sources of information online. Unless there is an obvious risk to the building, going inside and seeking further information is often the safest thing to do. People should always be guided by what they can see going on around them – for example, it is never safe to return to a building that is on fire.

In some situations, people may need to evacuate for their own safety. It is important for people not to delay evacuating properties, buildings or general locality if asked to by the responding authorities. Delaying or refusing to evacuate may put individuals' own lives at risk, as well as putting emergency responders in danger if they later have to return to properties to deliver the evacuation request again.

The internet can be a helpful source of information, however it is important to remember that the internet and social media are full of both facts and opinions. Some information found online can be misleading and inaccurate, making it harmful to share with friends, family or colleagues. Use the SHARE Checklist to help decide if a story can be trusted.

Help with recovery

Recovery is a complex process, beginning at the earliest opportunity and running in tandem with the emergency response. Recovery from a serious incident can last months, years or even decades. If it is safe to do so, members of affected communities are encouraged to participate in the recovery process and should be involved in determining how recovery is best achieved in their community.

In the recovery phase of an incident, members of the public who wish to help should look out for calls for support from a local authority or national and local charities, to assist with the clean-up or to help others in their community get back on their feet. As well as providing practical assistance with community recovery, members of the public can also provide support to other individuals affected by an incident, for example by listening to those who want to talk about their experiences.

It is important to look out for persistent signs of distress in trauma exposed individuals, and if symptoms do not resolve with informal support, to point the affected individuals towards professional help. More advice on coping with trauma following emergencies can be found on GOV.UK/Prepare, which includes links to relevant NHS pages.

Supporting communities and volunteering

For communities, a 'whole-of-society' approach to resilience means that where possible, communities recognise their role in, take responsibility and contribute to the UK's resilience.

Successful community resilience approaches are often based on connection and relationships. Deepened partnerships between statutory responders and the communities they serve can provide benefits and positive outcomes during emergencies, such as an increased understanding of needs in the community, public confidence and motivation to act, and better coordination and integration of collective capabilities to prepare for, respond to and recover from emergencies.

The information at GOV.UK/Prepare | Get involved in your community provides information and advice to individuals and community groups about:

- Ways to safely get involved and support their communities before, during and after emergencies.

- How community groups can build networks and support their communities before, during and after an emergency.

- Donating during an emergency – including information for businesses about how they can support communities when an emergency happens.

When emergencies happen, people often feel compelled to help. Professionals and volunteers train for emergencies, but other members of the community can also be involved through acts of good neighbourliness and spontaneous volunteering. Bringing people and organisations together to form effective networks is key to building community resilience, preparing for emergencies, and making the best use of all available resources.

If the worst happens, members of the public can often rally their skills and resources to help their community. No matter who wants to help, what abilities they have, or whether they have volunteered previously, there may be ways for them to help.

Even if people feel motivated and able to help, in many cases it is best not to just turn up at the scene of an emergency and begin working. This could be dangerous and overwhelm the emergency services. Instead, it is best to get involved via the structures that have been established in the local area, so everyone can work safely for the benefit of those who need help. This means looking out for calls for support from a local authority, or national and local charities and, most importantly, performing essential acts of good neighbourliness.

Some examples of the ways the public can support their community:

Before an emergency, members of the public, community organisations and local businesses can help to build the resilience of:

- **individuals**, by raising awareness of risks and preparedness actions, for example through social media

- **households**, by advising on property refurbishment such as property flood defence measures

- **communities**, by identifying vulnerable people and helping them access support

- **organisations**, by supporting business continuity planning

- **networks**, by building trusting relationships between different local and community organisations

During an emergency or crisis, the public can help – if it's safe to do so – by checking on neighbours and vulnerable people in the community to see if they need any help or assistance.

After the emergency, the public can also offer their help to clean up, help others to get back on their feet, or help their community to come to terms with the situation.

Guidance for responding organisations

Emergency responders should:

- develop a broad understanding of their communities, including the health, social, financial and environmental impacts that could occur from the materialisation of risks, and the capacity and capabilities that exist within the community to support official preparedness, response and recovery activity, where appropriate.

- seek ways to build community resilience so that individuals and groups are better able to deal with emergencies when they occur; this in turn can help to reduce the pressures on emergency services who can then focus their resources on vulnerable groups and those most in need.

The UK Government published the Community Resilience Development Framework and guidance on 'planning the coordination of spontaneous volunteers' in 2019.

The Community Resilience Development Framework is a reference tool for the delivery of strategic approaches to community resilience development, at the local level in collaboration with non-statutory partners, such as voluntary, community and faith organisations, and businesses. Guidance on planning the coordination of spontaneous volunteers is designed for emergency planners and responders to assist in the planning and management of spontaneous offers of support from the public during an emergency.

Additionally, guidance is available from the Scottish Government on the topic of Building Resilient Communities. This guidance recommends that responders consider best practice, in order to maximise the effectiveness of their work with individuals, community groups, private sector businesses and voluntary sector organisations, to help make themselves more resilient. In line with other Preparing Scotland guidance, it is drawn from existing good practice in Scottish communities.

Identifying people who could be vulnerable in emergencies and crises

It is important for organisations to be aware of which individuals might require more support in relation to emergencies and crises.

The UK is faced with a wide range of risks that could have a disproportionate impact on specific vulnerable and at-risk groups. Individuals within these groups are likely to experience higher levels of morbidity and mortality in comparison to the general population. They are also more likely to suffer financial hardship either as a direct or indirect consequence of a risk materialising. Individuals can have multiple vulnerabilities in the context of an emergency or crisis, which can have a compounding effect on their ability to respond to and recover from the event.

There are a broad range of social, financial, health and environmental determinants that can impact the ability of an individual, a household or a community, to mitigate risks and respond in emergencies. For example, across the world we have seen previous events place an inequitable burden on individuals such as:

- Those with pre-existing mental or physical health conditions or disabilities (whether living in the community or in long-term care facilities)
- Older adults
- Children
- Pregnant women
- Individuals from certain ethnic backgrounds
- Healthcare and other frontline workers
- Informal or self-employed workers
- Those in lower socio-economic groups or who are financially insecure
- Individuals exposed to abuse or violence
- Tourists
- Migrants
- Those who are socially isolated
- Individuals with less knowledge and experience related to specific risks

This list is not exhaustive, and different agencies and organisations have different definitions of vulnerability but it illustrates the wide range of individuals who could be considered (or could become) vulnerable in certain emergencies or crises.

Vulnerability is complex and vulnerable groups are non-static. The impacts of an emergency change over time and are influenced by other wider concurrent and contextual factors. Individuals who might be considered vulnerable in the context of one risk might not be for another. For example, older adults might be considered more vulnerable in some virus outbreaks, however could potentially have higher levels of preparedness for a significant power outage, having more experience of these types of events.

The risks discussed in Chapter 4 could result in unequal impacts for individuals, and also for communities. Every scenario is different but when planning for and responding to these risks, planners from national government, local government and community groups all have an important role to play in mitigating the disproportionate impacts on these individuals and communities. Within public bodies, the Public Sector Equality Duty requires a consideration of the potential effects of policies, functions and service delivery on groups with protected characteristics, and the inclusion of reasonable mitigations where negative impacts may be anticipated. For emergency planners, it is important to consider the role that non-statutory partners, such as voluntary, community and faith organisations can play in providing routes to engagement with vulnerable and at-risk groups.

Chapter 4

Risk summaries
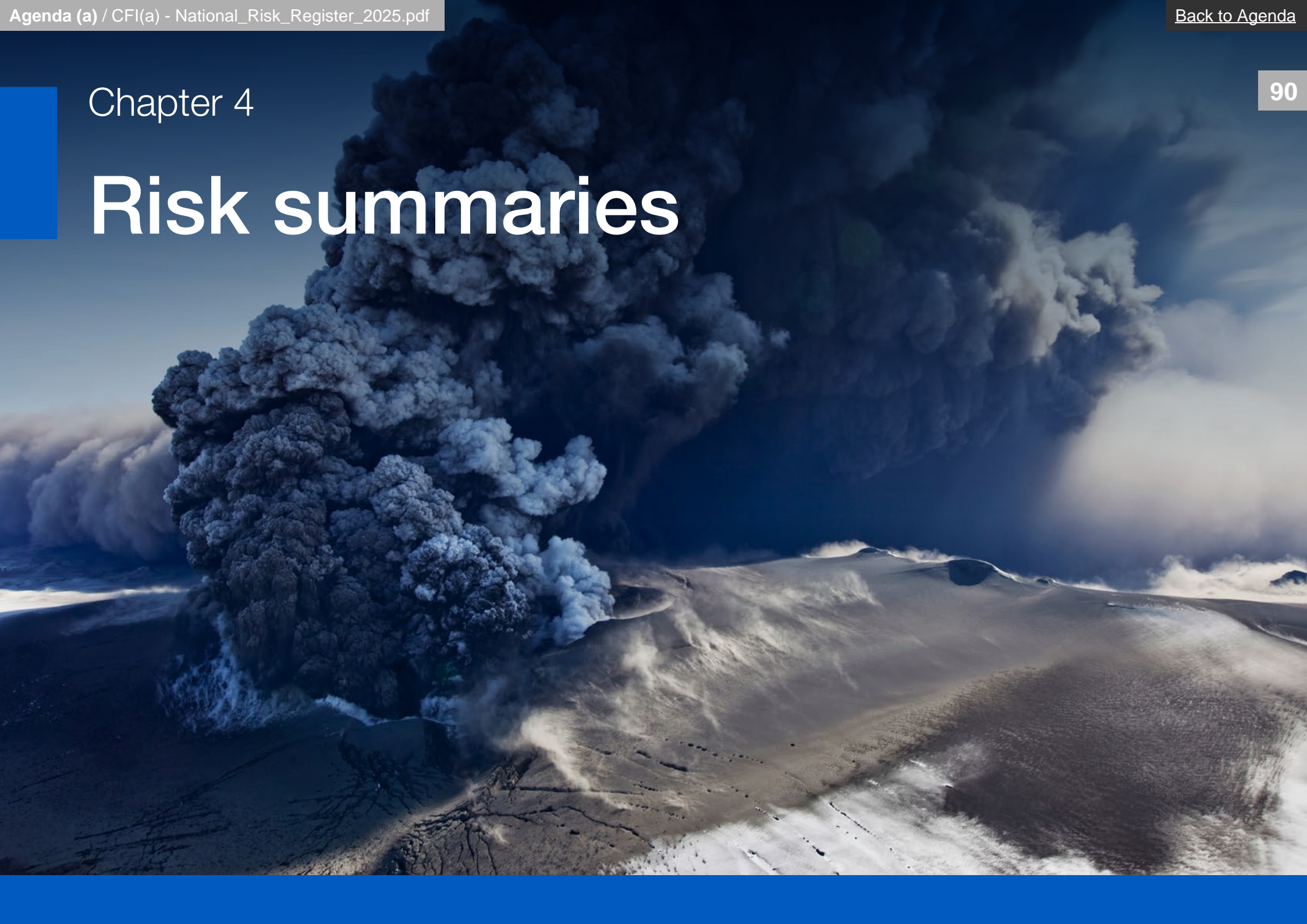
Terrorism

International terrorist attack

There have been a number of terrorist attacks occurring overseas that have involved British Nationals. One such event was the incident in Tunisia in 2015, in which 30 of the victims were British.

Scenario

The reasonable worst-case scenario of this risk considers a large-scale terrorist attack occurring overseas, involving a significant number of British Nationals. There would be casualties and fatalities, which would include a diverse range of tourist nationalities.

Key assumptions for this scenario

This scenario assumes that a non-state actor, likely a known terrorist group, is behind an attack.

Response capability requirements

Resilient communications systems, humanitarian assistance, victim support and UK sovereign military capability might all be required to deal with an international terrorist attack. Response and recovery would involve counterterrorism programming, security sector development assistance and access to UK support services for affected British nationals.

Recovery

This event is unlikely to directly impact UK infrastructure but there would be an impact on the tourism industry and bilateral relations. Domestic health service support for returning casualties would be required including mental health and medical support for those sustaining long-term injuries.
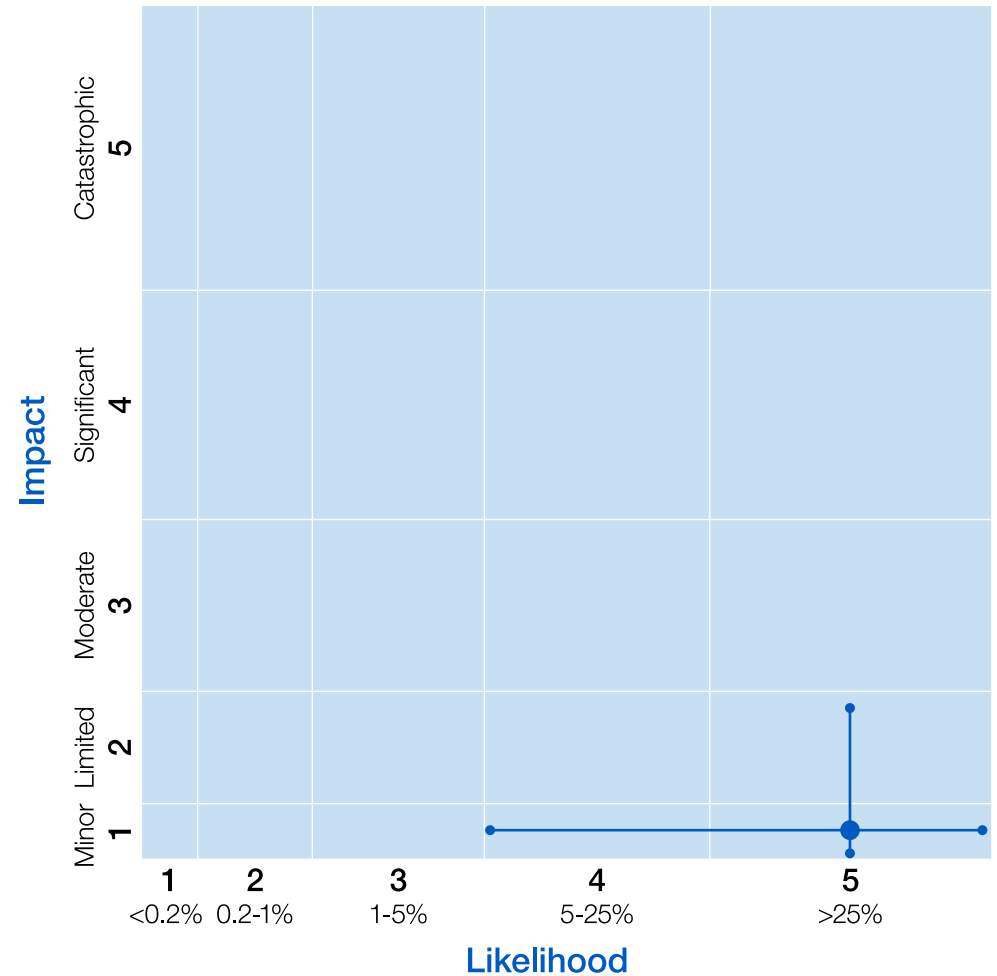
Northern Ireland related terrorism

The current threat level for Northern Ireland related terrorism in Northern Ireland is substantial, meaning an attack is likely. Since the signing of the Belfast (Good Friday) Agreement there has been a transformative change in Northern Ireland where peace has brought stability and opportunities, enabling it to develop into the vibrant place it is today. However, there are a small number of people who continue to try to destabilise the political settlement through acts of terrorism and paramilitarism. Their activity causes harm to individuals and communities across Northern Ireland.

Scenario

The reasonable worst-case scenario for this risk is a targeted terrorist attack in a public area in Northern Ireland. The intended target would be a site viewed by dissident republicans as symbolic of the British state. The attack could also pose a risk to members of the public depending on where it took place. There could be fatalities and casualties, damage to nearby infrastructure and disruption to transport.

Response capability requirements

Immediate assistance will be required from the Police Service of Northern Ireland and potentially the other emergency services depending on the nature and impact of the attack.

Recovery

Support will be needed for the victim(s) of any attack, those injured and, where necessary, their families. Consideration should also be given to what support the local community will need following the attack. Work may be required to repair any damaged infrastructure.
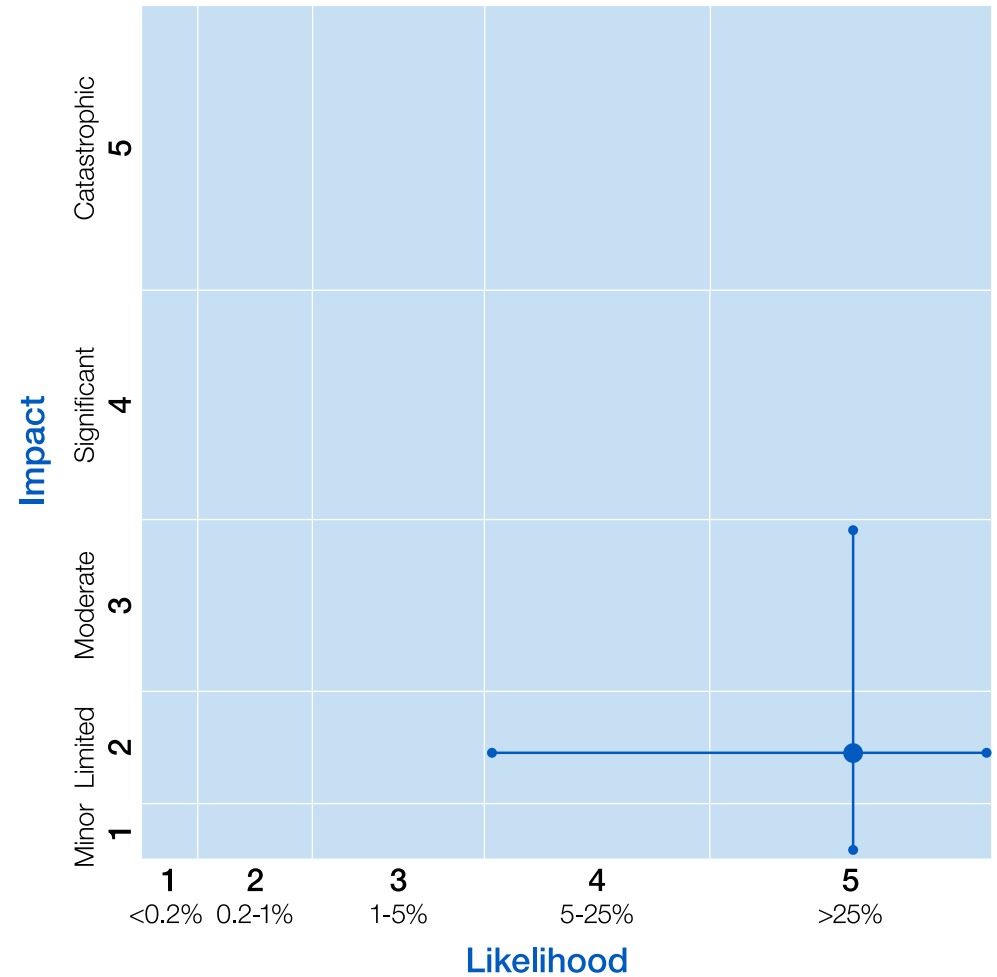
Terrorist attacks in venues and public spaces: explosive devices

An explosive attack can occur as a result from either a person-borne improvised explosive device, an emplaced improvised explosive device or vehicle-borne improvised explosive device. Examples of explosive attacks that have taken place in the UK include the 2017 Manchester Arena attack where a terrorist killed 22 people and the Liverpool Women's Hospital explosion in 2021. The government continues to reduce the vulnerability of the UK to an explosive attack through restricting access to explosives precursor chemicals, improving detection capabilities including the strengthening of National Canine Training and Accreditation Scheme for Private Companies, and maintaining an understanding of the explosive materials and methods that pose a risk in the UK.

Scenario
The reasonable worst-case scenarios included in this category of risk include the detonation of an improvised explosive device (on a person, vehicle or emplaced) at an enclosed or unenclosed location with high crowd densities. These scenarios would result in multiple fatalities and casualties and there may be further fatalities and casualties through structural collapse (enclosed areas), fire/smoke or large numbers of people fleeing a scene to safety. An attack may temporarily impact utility supply, transport services and put pressure on emergency services.

Response capability requirements
The use of the Joint Emergency Services Interoperability Principles provides the basis for a coherent multi-agency response. The response to an explosion may utilise the deployment of both specialist and non-specialist responders. Local Resilience Forums and their Scottish and Northern Irish equivalents would support wider consequence management. Specialist response capabilities would include Explosive Ordnance Disposal and Urban Search and Rescue, which would be required for building collapse or structural damage to buildings. Support from utility providers may also be required if damage from the explosion damages underground cables and pipes. The Forensic Explosives Laboratory provides specialist forensic capabilities, which allows the prosecution of explosives-related crimes, including terrorism.

Recovery
Local, regional and national victim support structures will be required to support all those impacted. The short-term excessive demands on hospitals may lead to delays in the system for several weeks. There would be a potential impact, in the medium term, on the tourism industry and businesses in affected areas. In some incidents the physical damage to structures may be extensive and areas may be out of action for a significant amount of time. Such an attack may also impact temporarily on utility supply to the surrounding areas. Residential properties in the vicinity may also be damaged, meaning that people are displaced for a period of time.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Terrorist attacks in publicly accessible locations category is 3 (moderate) and the average likelihood score is 5 (>25%).

Terrorist attacks in venues and public spaces: marauding attacks

Marauding terrorist attacks (MTAs) involving the deliberate seeking of targets by an attacker can take many forms. A wide range of methodologies, from high sophistication to lower complexity can be used as part of an attack (for example, vehicles, bladed weapons and firearms). Previous examples in the UK include the 2017 London Bridge attack, where terrorists used a vehicle and knives to kill 8 people, and the 2020 Reading attack where a knife was used to kill 3 people. The government reduces the vulnerability to a marauding terrorist attack through a programme of support for venues, public places and specific sectors. This includes free advice, guidance and training through ProtectUK. New legislation, the Terrorism (Protection of Premises) Bill, also known as Martyn's Law, will also require those responsible for certain premises and events to take steps to mitigate the impact of a terrorist attack and reduce harm.

Scenario

The reasonable worst-case scenarios for marauding terrorist attacks in the assessment include the use of firearms or low-sophistication methods, such as bladed weapons, with the incidents taking place in a venue or public space. Potential impacts from these scenarios include fatalities and casualties, damage to property and infrastructure, increased demands on the emergency services, disruption to essential services and economic damage. Other impacts include disruption to local and regional transport services, disruption to education and short-term excessive demands on hospitals and the wider health service in both the short and long term.

Response capability requirements

The use of the Joint Emergency Services Interoperability Principles and MTA Joint Operating Principles enable a coherent multi-agency response. The response to an MTA may utilise the deployment of both specialist and non-specialist responders. Specialist responders (such as armed police, Hazardous Area Response Team and Fire and Rescue Service MTA teams) are trained to bring the attack to an end and treat casualties in high-risk environments and can be deployed from key locations across the country. Local Resilience Forums and their Scottish and Northern Irish equivalents would support wider consequence management.

Recovery

Local, regional and national victim support structures will be required to support all those impacted. The short-term excessive demands on hospitals may lead to delays in the system for several weeks. There would be a potential impact in the medium term on the tourism industry and businesses in affected areas.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Terrorist attacks in publicly accessible locations category is 3 (moderate) and the average likelihood score is 5 (>25%).

Malicious maritime incident

The risk of a malicious attack targeting the maritime sector in the UK marine area is considered unlikely. An incident such as the scenarios described below has never occurred in or near UK waters, and measures are in place to help mitigate such an incident occurring. However, historically and globally we have seen incidents of terrorists targeting the maritime domain, and the government continues to prepare for a wide range of terrorist attacks. Examples of global incidents of this nature include the bombing of the Superferry 14 in the Philippines in 2004, and the hijacking of the Kartepe in Turkey in 2011. In addition to the protective measures that are in place for maritime, the government aims to ensure we are appropriately prepared to respond to this kind of attack, including working with our international partners.

Scenario

The reasonable worst-case scenarios included in this group of risks involve a terrorist attack on a vessel in or near UK waters. This would lead to casualties and fatalities, structural damage to the vessel and possibly in some scenarios may lead to the vessel sinking, depending on the methods used by the perpetrators. In a sinking scenario, passenger evacuation protocols would be activated. This incident would have significant economic costs due to varying factors including the initial response, salvage of the vessel, potential blockage of navigation channels, medical costs and wider impacts on the maritime sector.

Response capability requirements

Any incident in the maritime domain would require specialist capabilities to respond due to the nature of the operating environment. Military intervention would be required in some scenarios. HM Coastguard Search and Rescue coordination would be needed to support the response to incidents. The triage of casualties by medics and the evacuation/reception of passengers at port would also be needed. The incident would invoke the Victims of Terrorism Unit and Foreign, Commonwealth and Development Office to manage domestic and international victims. Mental health support and recovery victim support services would be needed for impacted individuals.

Recovery

In some incidents a vessel may need to be recovered and removed. Depending on the exclusion zone around the vessel this may cause some disruption. If a forensic investigation is needed, this could take months, causing operational challenges for the receiving port if no alternative location is available for management post incident. An enhanced security posture at ports may be required following such an incident.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Terrorist attacks in publicly accessible locations category is 3 (moderate) and the average likelihood score is 5 (>25%).

Malicious rail incident

The domestic rail network in Great Britain has historically been a target for terrorists. More recently, there have been a number of notable attacks by Islamist terrorists such as the London bombings on the 7th July 2005. Unlike other transport modes such as aviation, there are no security searches when rail users enter the network, which limits the ability of the authorities to detect and prevent attackers. Detection of attacks during the planning stage by the intelligence agencies/police is key, along with deterrent activities, for example encouraging vigilance through the See It Say It Sorted campaign, rail staff undertaking security checks, and British Transport Police patrols. Mitigating the impact of an attack by designing in security and using materials such as laminated glass is also a key priority.

Scenario

The reasonable worst-case scenario of this risk is based on a terrorist attack taking place on the rail network. Different attack methods could be used including high- or low-sophistication weapons. The incident would result in a large number of fatalities and casualties. Although lower-sophistication attacks are currently considered more likely, attacks involving firearms and improvised explosive devices are still considered likely.

Response capability requirements

The immediate response would require a range of capabilities across the emergency services, including specialist teams. There will likely be a requirement for mutual aid for emergency services. In the medium to long term, casualties will require further medical and psychological treatment and support.

Recovery

Recovery depends on a number of factors including the precise location and if there is any damage caused by the attack. The time needed for evidence gathering can range from days to a few weeks. Coordination between investigators and the railway is needed to ensure that key areas are returned first. The length of time and cost of repair and reconstruction would depend on the damage. Where there is serious structural damage, temporary works may be required to make safe and/or weatherproof the area pending a longer-term permanent replacement, which could take years. Following an attack we would likely see a reduction in people using the railway due to loss of confidence.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Terrorist attacks on transport category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Malicious aviation incident

While air travel remains one of the safest forms of transport, aviation continues to be an attractive target for terrorists and those who wish to cause harm. In recent decades, there have been several attacks and attempted attacks against aircraft and related infrastructure around the world. The government works closely with the aviation industry on aviation security and continues to develop and implement effective measures to protect UK outbound aviation, including the use of advanced screening equipment at security checkpoints to screen passengers and their baggage. All staff working in restricted areas at airports are subject to screening and enhanced background checks. The aviation industry also works with partners overseas to improve aviation security globally.

Scenario
 In summary, the reasonable worst-case scenario involves a terrorist attack against an aircraft with passengers on board, causing it to crash over a populated area. This would cause a significant number of fatalities and casualties, involving a broad spectrum of injuries, with impacts over a widespread area. Long-term rebuilding and regeneration of the affected area would be necessary.

Response capability requirements
The immediate response would require a range of capabilities across the emergency services, including specialist teams. There will likely be a requirement for mutual aid for emergency services. Psychological treatment and support would be needed. There would need to be decontamination expertise to clear any aviation fuel left behind.

Recovery
 In the reasonable worst-case scenario, it could take up to 2 weeks for normal air traffic services to resume. However, it would likely take much longer for the local area to recover from any damage caused by the incident. Local residents and businesses might need to be relocated temporarily and some permanently.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Terrorist attacks on transport category is 3 (moder-ate) and the average likelihood score is 4 (5-25%).

Strategic hostage taking

Strategic hostage taking can be characterised as an incident in which subject(s) are held and/or threatened, in order to fulfil terms and conditions of the attacker(s), who may hold political or ideological motivations. Hostage taking remains a possible method for terrorists, and has been seen internationally, such as in Sydney 2014 where 18 people were held hostage for over 16 hours in a café and Paris November 2015, where 15 people were held hostage in a supermarket following the Charlie Hebdo attacks.

Scenario

The reasonable worst-case scenario of this risk involves a group of people being held hostage as part of a planned siege. Potential impacts of strategic hostage taking include fatalities and casualties, damage to property and infrastructure, increased demands on the emergency services, disruption to essential services and economic damage. Public outrage at the perpetrator(s) would be significant and widespread. Support for hostages' families will be required, along with significant psychological support for the surviving hostages. There is likely to be a large international media presence and coverage of the siege.
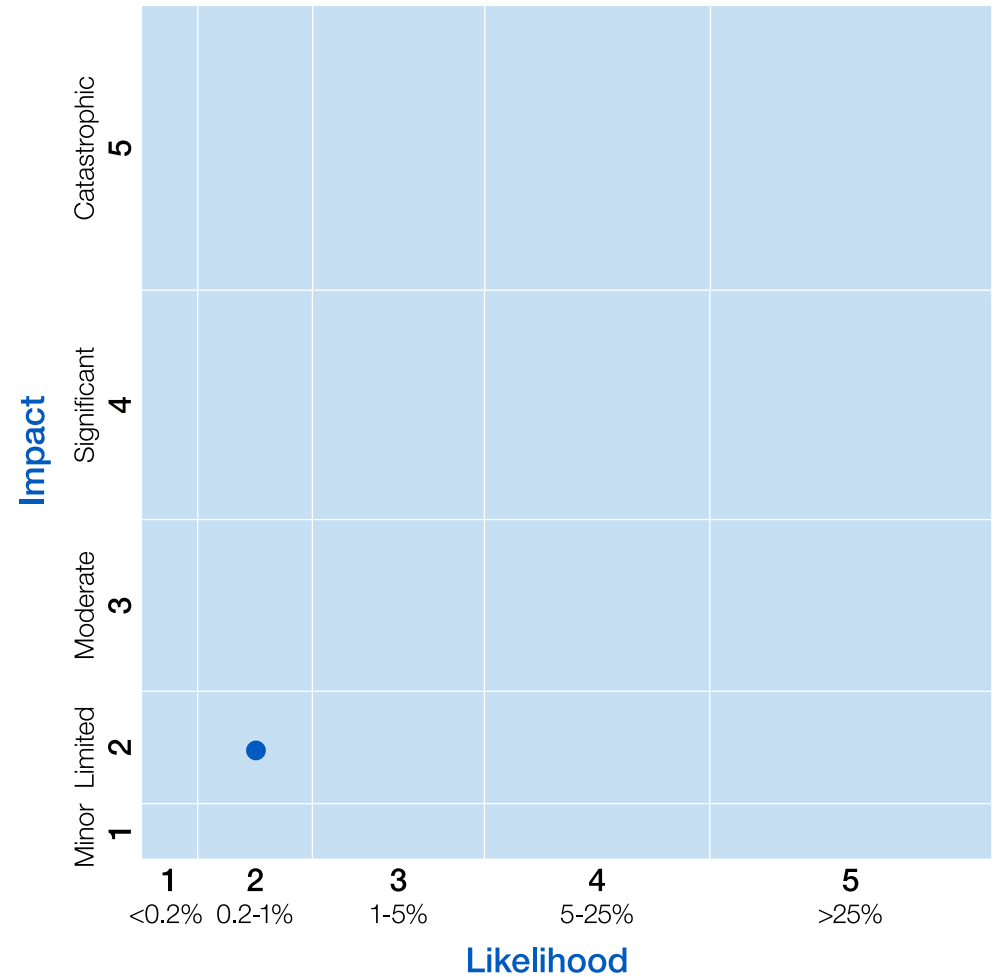
Strategic hostage taking

Response capability requirements

The use of the Joint Emergency Services Interoperability Principles would enable a coherent multi-agency response. The response to strategic hostage taking may utilise the deployment of both specialist and nonspecialist responders. Specialist responders (armed police, Hazardous Area Response Teams, specialist Fire and Rescue Service teams, niche military assets and negotiators) are trained to respond to the threat and treat casualties in high-risk environments, and can be deployed from key locations across the country to attend an incident occurring anywhere in the UK. Local Resilience Forums and their Scottish and Irish equivalents would support wider consequence management.

Recovery

Some individuals will sustain long-lasting physical or psychological injuries. Long-lasting psychological injuries may place long-term pressure on mental health services. Local, regional and national victim support structures will be required to support all those impacted.

Assassination of a high-profile public figure

High-profile public figures have historically been targets of assassination attempts. In the UK, the most recent example is that of Sir David Amess MP, who was murdered on the 15th October 2021 at a constituency surgery in Leigh-on-Sea.

Scenario

The reasonable worst-case scenario for this risk concerns the assassination of a high-profile public figure. There is also the potential for a small number of casualties in close proximity to the intended target. This high-profile target would be attacked because of the symbolic value and therefore there would be a large psychological impact. Public outrage would be significant and manifest nationwide (and internationally) as it would be perceived as an attack on our society and way of life.

Key assumptions for this scenario

Outrage may be directed at communities to which perpetrators are believed to be affiliated and any countries/sponsoring group perceived to support them, potentially resulting in heightened community tensions. Although levels of outrage may reduce over time, memory of the event is likely to persist across generations and would be targeted at the perpetrators. Some initial, short-lived anger may be felt about the inability to protect such a high-profile figure.
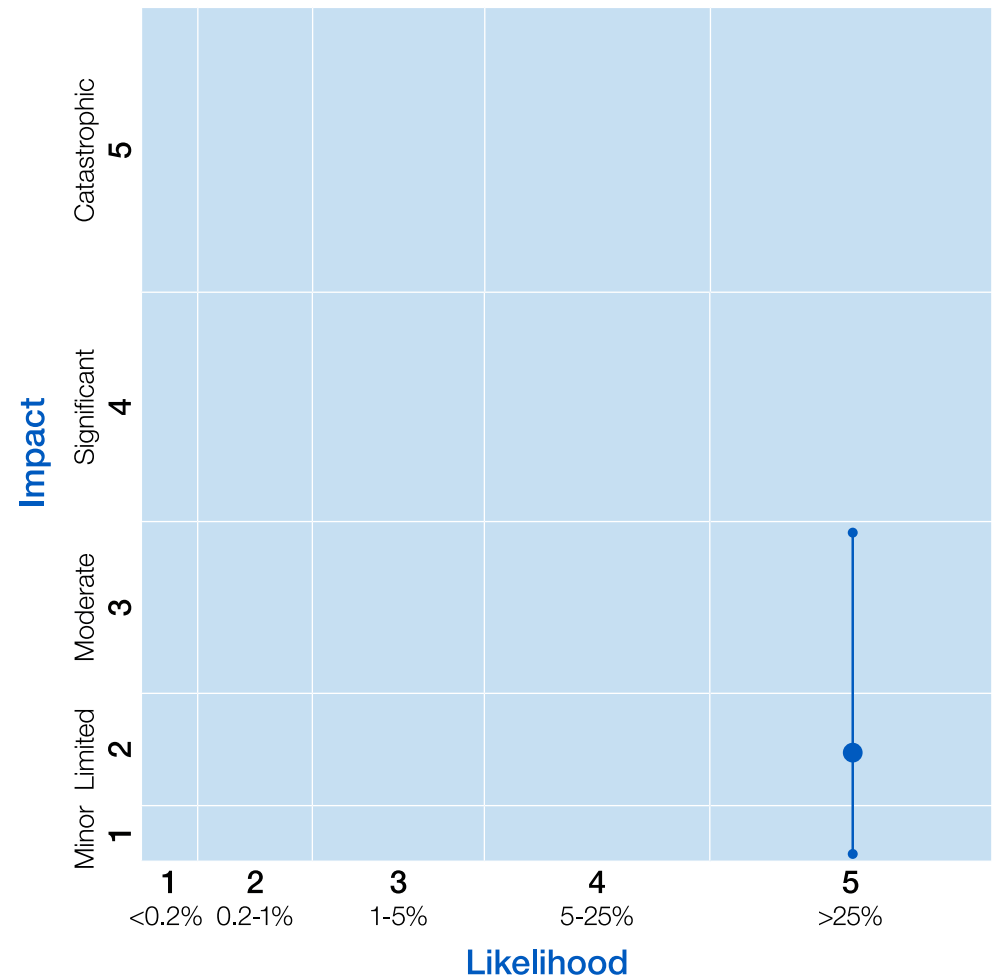
Assassination of a high-profile public figure   102

Response capability requirements

A proportionate response will be deployed depending on the specific attack scenario.

Recovery

Depending on the individual who was assassinated, there would be different implications. The running of government and delivery of public services are unlikely to be significantly disrupted by this kind of attack.

Chemical, Biological, Radiological and Nuclear (CBRN) attacks

Malicious actors including terrorists, hostile states or criminals remain interested in CBRN attack methods. In the UK, it is assessed that terrorists are more likely to use knives, vehicles or improvised explosive devices. However, the threat of CBRN attacks cannot be ruled out.

A large-scale CBRN incident has never occurred in the UK, however, small-scale hazardous events are dealt with by the emergency services on a regular basis. Some of these have a criminal element, for example in the case of illegal drugs labs. While a large-scale deliberate CBRN incident has never occurred before in the UK, 2 smaller-scale events challenging our national security have occurred. The first was the former Russian agent Alexander Litvinenko's death on 23 November 2006 in London from poisoning by Polonium-210 (a highly radioactive isotope). The second, in 2018, was the attack on Sergei Skripal, a former Russian military intelligence officer, and his daughter, Yulia Skripal, in Salisbury, which was carried out using Novichok, a chemical warfare agent. This led to the subsequent death of Dawn Sturgess in Amesbury.

The government continues to reduce the vulnerability of the UK to CBRN attacks by improving methods to detect and monitor CBRN materials, including through the UK border, and by limiting access to hazardous materials and their precursors.

Scenario

Chemical

The reasonable worst-case scenarios included in the assessment involve the release of a toxic chemical in an enclosed environment and in an unenclosed environment resulting in potentially large numbers of casualties and fatalities. Other scenarios include incidents which result in contamination of food or water supply, resulting in casualties and fatalities – these events could have an impact on consumer confidence and lead to adaptive purchasing behaviours. With all scenarios there is also the potential for significant economic damage.

Biological

The reasonable worst-case scenarios included in the assessment involve the dispersal of a biological agent in a smaller-scale targeted incident and at a larger-scale in an unenclosed urban area. There is the potential for large numbers of casualties and fatalities, and in the larger-scale event, long term catastrophic impacts on the environment and economy.

Radiological/nuclear

The reasonable worst-case scenarios included in the assessment involve the dissemination of radiological material into an unenclosed environment. The dissemination of radiological material has the potential for large numbers of casualties and fatalities in a relatively localised event. In the case of a nuclear event, the impacts would be catastrophic for the UK. There would be potentially widespread environmental damage and depending on the scale of the event, long-term exclusion of areas contaminated by radioactive material.

Chemical, Biological, Radiological and Nuclear (CBRN) attacks

Key assumptions for this scenario

For the purposes of the assessment, it is assumed that for certain contamination events, risk mitigation capabilities are in place to reduce the proportion of casualties that become fatalities and to limit the spread/ transfer of hazardous materials.

Response capability requirements

The quickest possible response is required to save as many lives as possible. Before specialist response elements can arrive at the scene the Initial Operational Response provides immediate lifesaving actions by the emergency services to minimise preventable deaths and harm for the majority of smaller-scale scenarios. A specialist operational response, supported by CBRN kit and equipment, is then required to manage the scene and the hazard and provide further lifesaving actions.

For example, mass decontamination and specialist medical treatment might be needed. Local authorities are required to support wider consequence management. The use of the Joint Emergency Services Interoperability Principles and CBRN Joint Operating Principles ensure a coherent multi-agency response to emergencies, including those of a CBRN nature. Wider public health responses might be required under some circumstances. Decontamination of land, property and infrastructure may be required depending on the scenario.

Recovery

Recovery from CBRN incidents could be a time-consuming and costly process, depending on the nature of the material dispersed. In some scenarios there could be a long-term environmental hazard that may be difficult to fully decontaminate. As well as the long-term physical effects of these types of events on the built and natural environments, affected individuals and communities may experience significant mental health impacts and a large-scale event would put substantial long-term pressure on health services. For some events the economy could take many years to recover due to widespread cross-sector impacts.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Larger scale CBRN attacks category is 5 (catastrophic) and the average likelihood score is 3 (1-5%). The average impact score for risks grouped under the Medium scale CBRN attacks category is 3 (moderate) and the average likelihood score is 4 (5-25%). The average impact score for risks grouped under the Smaller scale CBRN attacks category is 2 (limited) and the average likelihood score is 4 (5-25%).

Conventional attack: gas infrastructure

Gas infrastructure may represent a potential target to terrorist groups with the intent to cause widespread disruption. The Russia-Ukraine war has seen a number of attacks on gas infrastructure (in Ukraine). The UK has a diverse and highly resilient gas network. Industry works to continuously minimise the risk of unplanned disruption while taking the risk of such outages into account in forward planning. Both the government and the Gas System Operator have robust response plans in place in the unlikely event a significant gas supply disruption should occur.

Scenario

The reasonable worst-case scenario is based on a terrorist attack on gas infrastructure which results in a significant loss of gas supply capacity to the UK. Domestic gas customers in the directly impacted region would lose their gas supply. There would be casualties and fatalities from a lack of heating, access to necessary medical treatment, exacerbation of an existing condition or limited ability to use gas-fired cookers safely. However, impacts would depend on the scale of disruption.

Emergency procedures could be required to safely balance and maintain pressure on the gas network by stopping supply to large industrial users, including electricity generating stations. Priority of gas supply would be given to domestic users (as they take longer to reconnect following disconnection for safety reasons). Within this process, some critical sites would be prioritised for supply. Disconnecting gas supply to electricity generating stations could cause a shortfall in electricity supply. In the event of a prolonged electricity supply shortfall, rolling power cuts lasting up to 3 hours may be required to balance supply and demand. Within this process, some critical sites would be protected from disruption, with the remaining disconnections being evenly distributed across Great Britain. Further information on established emergency procedures for a gas or electricity emergency can be found in the National Emergency Plan for Downstream Gas and Electricity on GOV.UK.

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution.

Recovery

Restoration of the affected gas infrastructure could take approximately 3 months, at which point rolling power cuts would no longer be required, as gas supplies to electricity power stations would resume. It would take a further week for industrial gas customers to be fully restored and weeks or months for some sites to return to service. It would take several months to restore domestic gas customers impacted by the initial loss of supply.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%).

Cyber attack: gas infrastructure

Gas infrastructure may represent a potential target for cyber attacks. Cyber attacks may involve the encrypting, stealing or destroying of data upon which critical systems depend, or they may result in disruption to operational systems. This could lead to the failure of gas supply infrastructure.

National response plans would be initiated to protect critical services as far as possible.

Scenario

The reasonable worst-case scenario is based on a cyber attack on a system critical to gas transmission, causing a significant loss of gas supply. Domestic gas customers in the directly impacted region would lose their gas supply. There would be casualties and fatalities as a result of a lack of heating, lack of access to necessary medical treatment, exacerbation of an existing condition, or limited ability to safely use gas-fired cookers. However, impacts would depend on the scale of disruption.

Emergency procedures could be required to safely balance and maintain pressure on the gas network by stopping supply to large industrial users, including electricity generating stations. Priority of gas supply would be given to domestic users (as they take longer to reconnect following disconnection for safety reasons). Within this process, some critical sites would be prioritised for supply. Disconnecting gas supply to electricity power stations could cause a shortfall in electricity generation. In the event of a prolonged electricity supply shortfall, rolling power cuts lasting 3 hours at a time may be required to balance supply and demand. Within this process, some

critical sites would be protected from disruption, with the remaining disconnections being evenly distributed across Great Britain. Further information on established emergency procedures for a gas or electricity emergency can be found in the National Emergency Plan for Downstream Gas and Electricity.

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution.

Recovery

Restoration of the affected gas infrastructure could take approximately 3 months, at which point rolling power cuts would no longer be required, as gas supplies to electricity power stations would resume. It would take a further week for industrial gas customers to be fully restored and weeks or months for some sites to return to service. It would take several months to restore domestic gas customers impacted by the initial loss of supply. A cyber attack could mean that recovery takes longer than expected, depending on the sophistication of the attack and damage to the system.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Conventional attack: electricity infrastructure

The UK has a highly resilient electricity network. A successful attack on electricity infrastructure has not taken place in Great Britain, though attempts were made to attack electricity infrastructure in the 1990s. Multiple attacks on electricity infrastructure have occurred internationally, in countries such as Iraq and Colombia. Industry works to continuously minimise the risk of unplanned disruption while taking the risk of such outages into account in forward planning. Both the government and the Electricity System Operator have robust response plans in place in the unlikely event that significant electricity supply disruption should occur.

Scenario

The reasonable worst-case scenario is based on a conventional attack against a major electricity infrastructure. This would lead to a loss of electricity output at the site instantly, resulting in an initial regional power cut. The network operator would reconfigure their network to stabilise the grid and reconnect most customers.

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution. Additional support could be provided via mutual aid agreements.

Recovery

Most customers would be reconnected on a staggered basis within 24 hours. However, when damage is widespread, or impacts located on the more remote parts of the network, it could take several weeks to fully restore all customers. This is due to the difficulties of accessing remote locations and the amount of time to repair physical damage. It could take 6-12 months for the affected infrastructure to be fully repaired.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%).

Cyber attack: electricity infrastructure

The National Electricity Transmission System (NETS) transports electricity across Great Britain. A cyber attack may involve encrypting, stealing or destroying data upon which critical systems depend or disruption to operational systems leading to the failure of the NETS. A failure of this system has the potential to severely disrupt all other critical systems, resulting in greater consequences than typical utilities failures. Great Britain has never experienced a nationwide loss of power and the likelihood is low, however similar events have occurred internationally due to natural hazards, rather than cyber attacks. Great Britain has one of the most reliable energy systems in the world and maintaining a secure electricity supply is a key priority for the government.

Scenario

The reasonable worst-case scenario is based on a malicious cyber attack on a critical electricity system, leading to a total failure of the NETS. All consumers without back-up generators would lose their mains electricity supply instantaneously and without warning. A nationwide loss of power would result in secondary impact across critical utilities networks (including mobile and internet telecommunications, water, sewage, fuel and gas). This would cause significant and widespread disruption to public services provisions, businesses and households, as well as loss of life.

Key assumptions for this scenario

For the purposes of the reasonable worst-case scenario it is assumed that the event occurs in winter when there is a high demand for electricity.

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution. It would be vital to ensure that fuel is available to priority users and can be distributed quickly across the country as required. To support the immediate aftermath of the incident, resilient communications systems, humanitarian assistance and victim support should be in place.

Recovery

Within a few hours, small pockets of consumers would be gradually reconnected with intermittent power supply, with a significant proportion of demand being reconnected within a few days to create a stable 'skeletal network'. Full restoration could take up to 7 days. However, depending on the cause of failure and damage, restoration of critical services may take several months. A cyber attack could mean that recovery takes longer than expected, depending on the sophistication of the attack and damage to the system.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Conventional attack: civil nuclear

Civil nuclear power is of strategic importance to the UK's energy resilience and clean energy transition, and a safe mode of generating electricity. Within the UK, and in line with international good practice, an independent regulator holds operators to account. The Office for Nuclear Regulation requires nuclear power sites to demonstrate their ability to defeat very advanced attacks that could lead to the loss of nuclear material or the release of radiation.

Scenario

In line with international good practice, the UK's domestic legislation requires planning for a range of scenarios, including those far beyond a reasonable worst-case. This scenario is extremely unlikely. It is based on a physical attack at a UK civil nuclear installation resulting in radiological contamination off site. The scenario mirrors that of a civil nuclear accident but has the additional component of an active counter-terrorist policing operation.

Key assumptions for this scenario

Scientific modelling has been used to determine the scenario and the countermeasures required.

Variations

Smaller-scale scenarios could occur with a lower percentage of inventory being released. This would decrease the level of impact on people, the environment and the economy. The attack could happen on a range of sites.

Response capability requirements

In addition to the response capabilities set out in the civil nuclear accident scenario there would be a large-scale, multi-agency response including counter-terrorist policing. A detailed communications campaign would be needed to communicate key messages to the public. Protective actions would be promptly implemented to protect people's health and safety.

Recovery

Around affected parts of the UK there would be significant prolonged long-term security, health, environmental and economic impacts requiring sustained recovery.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%).

Cyber attack: civil nuclear

Civil nuclear power is of strategic importance to the UK's energy security and net zero ambitions and in turn, must continue to strengthen its resilience to dynamic and evolving cyber threats. Cyber security in the civil nuclear sector is managed through a combination of nuclear safety and security regulatory requirements, a defence-in-depth approach and sector-wide collaboration under the 2022 Civil Nuclear Cyber Security Strategy. The combination of these approaches drives a holistic and robust risk mitigation on cyber.

Scenario

This scenario assumes a cyber attack that could require a controlled shutdown of a civil nuclear generating site as a protective measure. This could result in a temporary loss of supply to the UK National Grid until its restoration or generating capacity could be increased elsewhere. Impacts from this loss could vary depending on how power redistribution is managed.

Response capability requirements

The National Grid requires the capability to restore grid systems and manage power distribution. Local Resilience Forums are required to manage potential regional-level impact to essential services as part of their arrangements for managing disruptions from loss of power. Functional back-up generators would be required for a range of other critical infrastructure sectors to reduce impact on essential services.

Recovery

The reactor's return to service could be a lengthy process, depending on the nature of the incident, while replacements and repairs take place due to strict regulatory controls designed to ensure nuclear safety and security.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Conventional attack: fuel supply infrastructure

Fuel supply infrastructure is used to produce, import, store and distribute fuels such as gasoline and diesel to consumers. Those with malicious intent could disrupt operations at a fuel infrastructure site causing operations to cease and impacting the production or distribution of fuel in a given region. There is also a risk of serious and fatal injuries to the workforce on site during an incident of this nature.

Scenario

The reasonable worst-case scenario is based on a physical attack on a critical part of the UK's fuel supply infrastructure. This would impact the production, importation and/or regional distribution of fuel as a result of physical damage or loss of operations, and the fuel sector would take time to adapt fully to the temporary or permanent loss of a critical asset.

Response capability requirements

The response would require proactive engagement with relevant public bodies such as the police. Government has established contingency plans in place to manage any impacts on fuel supply, and these are listed in the National Emergency Plan for Fuel. The National Emergency Plan for Fuel sets out the government's approach to maintaining fuel supplies in an emergency. The plan is for use by the government, the downstream oil supply industry and resilience planners for local services. It includes the possibility of prioritising fuel for the emergency services and rationing fuel to retail customers using legislation under the Energy Act.

Recovery

Once operations at the affected site have resumed, fuel stocks would begin to recover quickly. The time taken for the restoration of supplies would depend on the extent of the damage to the infrastructure. The rate at which forecourt stock levels recover would depend on the remaining stock levels across the region, number of sites that have stocked out and demand levels.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%).

Cyber attack: fuel supply infrastructure

A cyber attack on the UK's fuel supply infrastructure could have implications for UK fuel production or distribution. All UK operators have robust cyber security practices but vulnerabilities in this space are evolving at pace and so it is a risk that government monitors closely.

Scenario

The reasonable worst-case scenario is based on a cyber attack on a system critical to the UK's fuel distribution and supply. This could cause the temporary loss of fuel supply to a region. Replenishment of sites would take several days depending on the location.

Response capability requirements

Government has established contingency plans in place to manage any impacts on fuel supply, and these are listed in the National Emergency Plan for Fuel, including the Reserve Tanker Fleet supported by Operation ESCALIN, a fuel supply contingency measure to make trained military drivers available to support fuel deliveries.

Recovery

Once operations at the given site have resumed and the rest of industry is able to start to readjust supply routes, fuel stocks would begin to recover quickly. However, the rate at which stock levels at forecourts increase would be dependent on the remaining stock levels across the country/ region, number of sites that have stocked out and demand levels.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Attack on government

In order for the government to function effectively and provide services to citizens of the UK, it is vital that government assets, including property and information, remain secure from external threats. There is a broad community of organisations and teams across government who work to ensure that – by monitoring, detecting, deterring and responding to any attack attempt.

Scenario

An attack on government assets or democratic processes (through conventional or cyber-enabled means) could lead to: the loss of important government functions; the disruption of critical government services; impacts on local government services; damage to public trust in the government; interference in elections and democratic processes; and the possibility of reputational damage for the UK overseas. It could also lead to loss or compromise of sensitive information held by the government, or in the case of a conventional attack, injury/loss of life.

Response capability requirements

There is a broad community of organisations and teams across government who work to ensure this – by monitoring, detecting, deterring and responding to any attack attempt. The Government Security Group is responsible for security across government, including the implementation of the Government Cyber Security Strategy. The National Technical Authorities, including the National Cyber Security Centre and the National Protective Security Authority provide expert advice. The emergency services and military are equipped to provide a robust response to any conventional attack.

The UK also has established structures (including incident response capabilities) in place to safeguard the integrity and security of UK democratic processes from interference, including cyber threats.

Recovery

The complexity, impact and level of response would determine the recovery timeline. There could be an impact across government and local authorities, requiring the enactment of business continuity plans. Government priorities would change to respond to the attack, which could result in a backlog to other work.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%). The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).
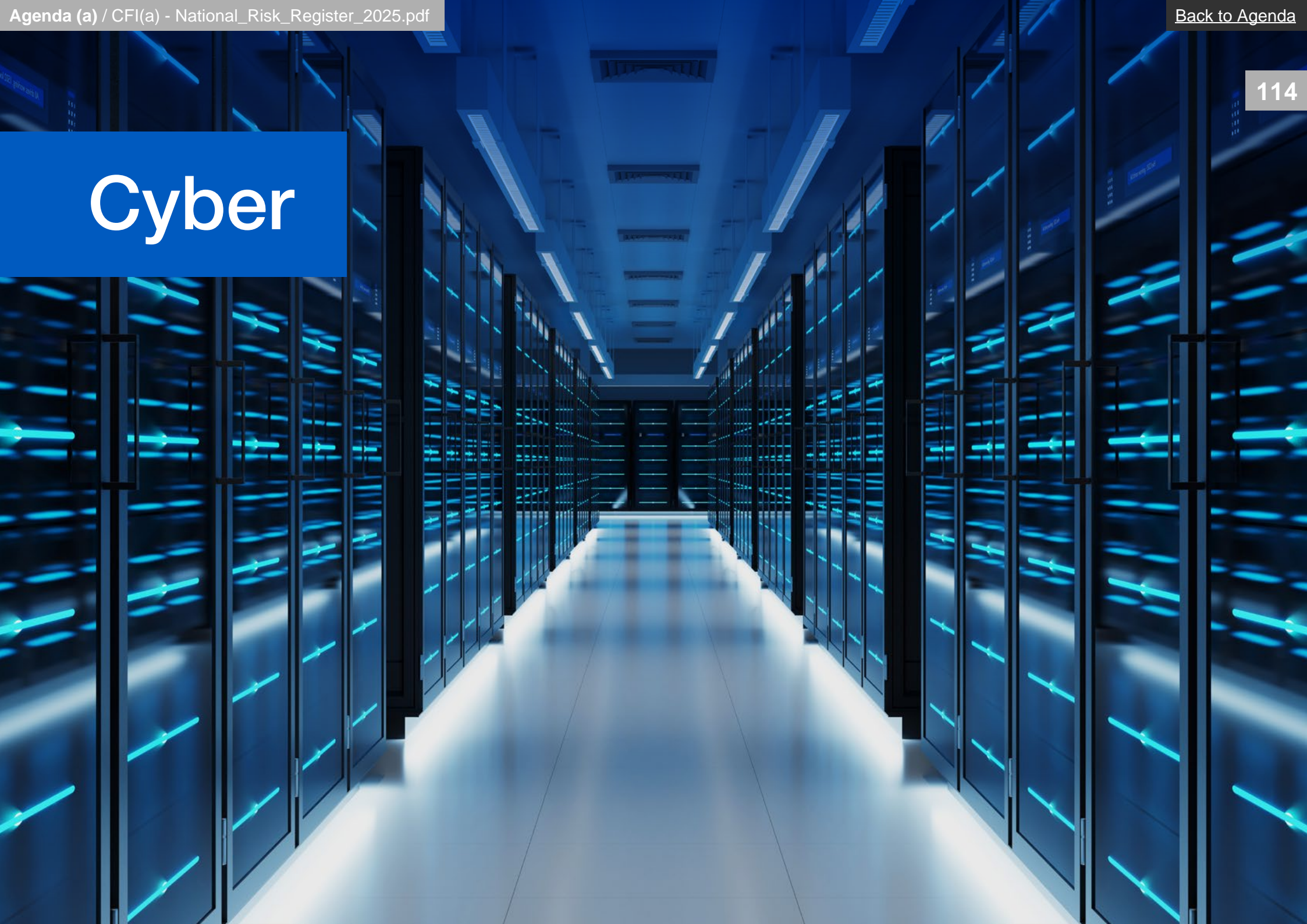
Cyber

Cyber attack:
health and social care system

The health and social care system remains a target for cybercriminals. In June 2024 Synnovis, a pathology laboratory which processes blood tests on behalf of several NHS organisations, primarily in South East London, was the victim of a cyber-attack. As a result of the attack 10,152 acute outpatient appointments and 1,710 elective procedures were postponed at the most affected trusts: King's College Hospital NHS Foundation Trust and Guy's and St Thomas' NHS Foundation Trust.

In 2023 the Cyber Security Strategy for Health and Adult Social Care was published and sets out a plan to promote cyber resilience across the sector by 2030.

Scenario

The reasonable worst-case scenario would involve catastrophic systemic service disruption due to ransomware moving quickly across the health and care IT estate. Systems would become inaccessible and organisations would move to offline services. Data loss would be widespread across the affected estate, with data also compromised and/or stolen. Some data would be unrecoverable from backups, depending on backup frequency. At least 90% of the estate would be infected with ransomware, but 100% of the estate would be impacted as systems move offline and/or data loss or compromise is experienced. The impacts would be felt immediately, for example cancelled appointments, delays to medical procedures and tests, and A&E diversions. Therefore an outage could potentially have immediate direct clinical care impacts on patients, as well as cause harm.

The second-order impacts are likely to manifest themselves increasingly over time, as the delays and cancellations would mean medical conditions worsen or are not diagnosed promptly. Vulnerable groups such as older adults and those with mental health conditions are likely to be disproportionately impacted.

Key assumptions for this scenario

Given the interconnected nature of health systems, any malware is likely to spread quickly across the estate and very likely impact suppliers to the NHS. It is assumed that two critical suppliers to the health sector are impacted by the attack.

Response capability requirements

Specialist IT support to address the immediate impacts of the incident. Additional staff to handle paper records, rearrange appointments and transfer patient data. Cyber Incident Response Retainer (CIRR) has been established to cover key national systems and address the immediate impacts, and specialist communications should be engaged quickly to provide key information to patients and media. Investigative support and skills will be required to ensure that evidence is appropriately preserved, where possible, and the incident is appropriately investigated. Clinical support will be required to provide advice due to loss of care records and services.

Cyber attack: health and social care system

Recovery

There is likely to be a significant recovery time across the whole health and social care system. Return to normal service use is characterised by a phased return of priority service functions over several months to years. This is dependent on the type of attack and the different levels of resilience across the cyber system, meaning the most resilient NHS Trusts may come online sooner but will need to handle cases from nearby NHS Trusts that are slower to return to online systems. The larger impact of a cyber-attack will be the secondary impacts, such as on appointments. These impacts are likely to grow exponentially as the system deals with increased morbidity (both physical and mental health impacts) and, highly likely, increased mortality.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Cyber attack: transport sector

Cyber attacks on transport networks or systems have the potential to cause widespread disruption to public transport across the UK and beyond.

Scenario

The reasonable worst-case scenario for a cyber attack is targeting one mode of transport. This may be maritime, aviation or land transport such as rail or road. All of these risks which would have different consequences. For illustrative purposes, an attack on maritime transport has been used as the reasonable worst case scenario.

For maritime this scenario is a cyber attack against a critical information network or system in the transport sector for 2+ days on five geographically dispersed ports. This would result in severe disruption to services delivered by operators. The attack could result in an immediate outage to services and systems, with potential for this outage lasting several hours and requiring multiple days for services to return to normal. The disruption to critical services and systems could result in economic and reputational damage, as well as present an increased threat to passenger safety of the affected operators within or connected to the UK.

Key assumptions for this scenario

For the maritime scenario, this assumes a successful attack against an essential transport network or information system disrupting passenger movements or freight at multiple key transport hubs during a peak transit period. It assumes that we would be unable to determine initially that it was a malicious incident.

Variations

The threat or risk to maritime is not assessed as any more likely than a similar attack against road, rail or aviation. Equally plausible scenarios could include cyber attacks targeting other modes of transport such as aviation or rail that would result in delayed and cancelled services.

Response capability requirements

Transport operators affected would lead the operational response to the incident including service updates to passengers. The Government incident response will be managed by DfT and the National Cyber Security Centre and other Lead Government Departments where needed; with Cabinet Office coordination if required. This may require a surge in cyber security, policy/operations and communications staff drawn from across government.

Recovery

The immediate systems recovery could take hours to months depending on the nature of the attack. Any impacts on critical goods supply chains could require a bespoke response to ensure effective movement of goods. The cost of recovery of cyber incidents can run into the millions, which may have long-term commercial viability impacts, particularly for smaller ports. LRFs may be required to support with disruption to passengers. Other impacts – including loss of strategic advantage – could last for years.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Cyber attack: telecommunications systems

Telecommunications is part of the communications critical national infrastructure (CNI) sector, and comprises fixed-line communications, mobile communications and internet infrastructure. Due to the critical services telecoms networks provide to the UK, they represent a valuable target for cybercriminals, therefore building our security and resilience capabilities is paramount. Communication providers are responsible for assessing risks and taking appropriate measures to ensure the security and resilience of their networks. The Department for Science, Innovation and Technology (DSIT), as the lead government department, introduced the Telecommunications (Security) Act 2021 and subsequent secondary legislation, which establishes a new and robust security framework, underpinning requirements to ensure the sector builds and operates secure networks.

Scenario
A disruptive and sophisticated cyber attack against a major UK telecoms network provider would affect millions of customers. This includes customers on other networks that connect or route through the impacted network, as well as impacting services provided by other CNI sectors. Impacts to broadband, landline and mobile would mean that customers are unable to access the internet or make voice calls. All customers without fixed-line and mobile connections are unable to access the Public Emergency Call Service (999/112), among other critical services.

Depending on the nature of the attack, disruption could last for up to 72 hours, but could extend into weeks or months. In extremes, a contingency service could be put in place (potentially within a fortnight).

Key assumptions
The cause and extent of network disruption may not be known immediately and it may be difficult to identify a cyber-telecoms attacker, whether it is a state threat, cybercriminal or hacktivist. Certain state actors have displayed capabilities to attack telecoms networks. Although the UK has not seen an attack at the scale described, it is plausible that under specific circumstances, state actors may demonstrate their intent to disrupt telecoms networks.

Variations
There are numerous variations of this risk in terms of attack vectors, scale, services and sectors impacted, and length of disruptions. The types of cyber threats facing the UK telecoms sector are evolving and diversifying with cyberspace becoming more contested as state and non-state actors seek strategic advantage through advanced technological capabilities. Similar disruptions could also occur from issues other than a cyber attack, such as misconfiguration, accidental disruption and software failures.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Cyber attack: telecommunications systems

Response capability requirements

Telecom operators are required to notify Ofcom of an incident, and consider seeking National Cyber Security Centre (NCSC) and DSIT support to enact a mitigation and response strategy. The overall handling process is underpinned by the Cabinet Office Cyber Incident Management Plan in conjunction with NCSC and DSIT cyber incident processes. The telecoms sector's National Emergency Alert for Telecoms would likely be activated due to impacts on multiple operators. The focus of government and local partners should be to mitigate impacts on the most vulnerable.

Recovery

Full remediation could take months or even years depending on actual or perceived cyber contamination of equipment. Communications recovery timeframes are unknown for other impacted CNI sectors, but again, millions could be affected.

State threats

Malicious attacks:
UK financial CNI

Financial market infrastructures (FMIs) are the networks that enable financial transactions to take place. Some FMIs constitute critical national infrastructure (CNI), as they provide services essential to the UK economy/functioning of state. Companies providing the UK's critical national infrastructure, including financial services organisations, are high-profile targets to state and non-state actors that may wish to cause significant disruption. The financial regulators' operational resilience policy requires finance sector organisations to ensure their critical business services are resilient to severe but plausible scenarios, including malicious attacks.

The supervisory framework covers FMIs and Other Systemically Important Institutions, critical to the UK's financial stability, who must also consider their risks in relation to harm their institution may cause to the real economy and financial services sector as a whole.

Scenario
The reasonable worst-case scenario is based on a sophisticated cyber attack against a single FMI carried out by a hostile state or criminal actor. Significant destruction and total disruption to systems cause the unavailability of systems for at least a week, with a partial outage of a few weeks thereafter. The destructive nature of the attack causes harddrive data to be overwritten and infected with malware. Depending on the FMI impacted, there would likely be significant impacts on the processing of financial transactions. There is a risk that the UK will experience a loss of confidence in the availability and integrity of financial data as well as reduced confidence in the financial system. Secondary consequences include international and domestic legal implications concerning data.

A malicious attack on an FMI that causes its protracted failure could threaten the financial stability of the UK or cause significant disruption to the wider UK economy and to consumers.

Key assumptions
The risk assumes that the fundamental integrity of an FMI has been compromised. It assumes the FMI as well as an available backup have been encrypted, making it inoperable.

Variations
Variations involve different examples of FMIs.

Response capability requirements
Collective incident response capability is managed under the UK's Authorities' Response Framework (ARF). The ARF allows the UK's Financial Authorities (the Bank of England, HM Treasury, and the Financial Conduct Authority) to coordinate a response to attacks that have, or could have, a major impact on financial stability or consumers.

Recovery
Recovery from such an attack could take months with permanent data loss or corruption a strong possibility.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Cyber attack:
UK retail bank

Retail banks provide financial services to individuals. The services they provide are vital to the UK's economy. They allow consumers to securely deposit and save their money, and access credit and mortgages. Some retail banks are designated as critical national infrastructure (CNI). UK CNI organisations are high-profile targets for cyber actors, both state and non-state, who may wish to cause disruption or steal information. The financial regulators' operational resilience policy requires finance sector organisations to ensure their critical business services are resilient to severe but plausible scenarios, including malicious attacks.

Scenario
The reasonable worst-case scenario is based on a sophisticated cyber attack against a bank's internal IT systems, carried out by a state or criminal threat actor. Such a malicious attack, in a reasonable worst-case scenario, could take a bank's systems totally offline, with significant destruction and total disruption to systems, causing the unavailability of systems for at least 2 days, with a partial outage for 2 days thereafter. The most significant impact would be felt by vulnerable customers with only a single bank account. The bank will also likely face heightened fraud and operational losses. Consumers could ultimately lose confidence in the retail bank and bank runs could follow. In attempts to patch the vulnerability and mitigate the damage, state or criminal actors will almost certainly take advantage of delays to carry out malicious cyber activity such as further data exfiltration. This would increase the duration of the attack and disrupt recovery attempts.

Key assumptions
The scenario is based on past cyber incidents and the increasing cyber threat. The assumption would be that the bank concerned would not be able to recover its core banking platform within the time described and the network would be rendered inoperative such that customers cannot access their accounts.

Response capability requirements
Since most systems are owned by private entities, the responsibility is ultimately on firms, though government and regulators can support in a crisis. Firms are encouraged to improve their cyber security and resilience, and the regulators' operational resilience policy requires regulated firms to set impact tolerances and remain within these. Collective incident response capability is managed under the UK's Authorities' Response Framework.

Recovery
Recovery plans would comprise a mixture of patching and implementing security controls, remediating and testing data and assuring systems are secure. Patching the vulnerabilities alone would be insufficient if the network has already been compromised, therefore it is almost certain that future mitigation measures will be required.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Cyber attacks on infrastructure category is 3 (moderate) and the average likelihood score is 4 (5-25%).

Total loss of transatlantic telecommunications cables

Transatlantic telecommunications cables are an underwater, fibre optic network of cables that run from one end of the Atlantic Ocean to the other. These transmit large volumes of data traffic that facilitate telephone communications and internet access. There is a risk that these cables could become damaged, which would disrupt communications across the UK and beyond. The system is generally resilient meaning there is a low likelihood of total loss of transatlantic telecommunications, but the risk would be impactful should it materialise.

Scenario
The reasonable worst-case scenario assumes that transatlantic subsea fibre optic cables connecting the UK would be damaged over a number of hours, rendering them inoperable. The primary sector impacted would be communications. There would be considerable disruption to the internet, to essential services that rely upon offshore providers of data services (including financial services), and potentially to supply chain management and payment systems.

Key assumptions for this scenario
The internet would begin to recover within hours as networks are reconfigured. Satellite communications would only provide a fraction of the bandwidth, and there would likely be an impact on European data networks.

Variations
A loss of a small number of cables could result from disruption at sea, such as a major underwater landslip across several hundred kilometres. The loss of connectivity would be more likely from damage to land-based infrastructure such as a cyber attack and could see cables connecting the UK being taken out of service, either directly or indirectly.

Response capability requirements
The required response would – at least temporarily – overwhelm the subsea cables' sector and require an agreement with cable operators to prioritise cable repairs according to government or wider sector and social criticality needs. The government would at a minimum support coordination of the operation to restore connectivity through repair and mutual aid and assistance.

Recovery
Repair would take a minimum of several months depending on the cause, location, availability of spare cables and specialist capabilities such as repair ships and specialist crews. The impact on the internet would begin to recover within hours as networks are reconfigured.

> This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Conventional attacks on infrastructure category is 4 (significant) and the average likelihood score is 3 (1-5%).

Geographic and diplomatic risks

125

Disruption of Russian gas supplies to Europe

Dependence on Russia for gas, and other energy sources, varies widely by country. For gas, the UK does not rely on Russian supply, having banned import of Russian gas from the start of 2023. Though Europe has reduced dependency on Russian gas significantly, supply to Europe remains. The UK is heavily integrated with the European gas market so it would be impacted by price volatility due to the continuing Russian supply to Europe.

Scenario

All transit gas that flows from Russia to European states is cut off for several weeks during the heating season (October - May). If prices increase significantly in response, gas consumers may need to be protected. There may also be knock on effects on electricity supply if European gas-fired electricity generation capacity is affected, impacting household electricity consumers.[1]

Key assumptions for this scenario

The economic impact to the UK has reduced due to the steps taken by the EU and UK to wean itself off Russian gas imports and backfill imports with those from other suppliers. There remains a smaller risk as prices may increase, impacting consumers in the UK. Previous assumptions around a cold winter and low levels of storage (or running out of storage) no longer apply as Europe has expanded its LNG capacity.

Variations

The severity of the risk will be determined by the weather, how much demand there is for gas and how much storage is available. The quantity of liquefied natural gas available on the global market will also impact the severity of the risk as well as Europe's ability to import. Infrastructure is often affected by unplanned outages for example in Norwegian production.

Response capability requirements

Businesses and households will require additional support in the face of higher gas prices, with a particular focus on vulnerable groups who are disproportionately affected.

Recovery

Sustained high prices above historic levels will impact the UK and global economy but prices are expected to eventually stabilise.

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1 While the key assumptions in the reasonable worst-case scenario were not met, high prices were experienced in 2022 driven by significantly reduced Russian flows and market fundamentals including bottlenecks in infrastructure in North-West Europe.

Disruption to global oil trade routes

Oil is a strategic resource and its free flow is critical to world commerce and global economic prosperity. Due to the global nature of the international oil trade, disruptions to oil trade routes can lead to regional and even global economic crises as a result of significant impacts on energy prices, production, and wider trade.

Scenario

The reasonable worst-case scenario assumes that war, political upheaval or a more benign cause would significantly disrupt global oil supply, resulting in much higher global prices. This has a knock-on effect on the global economy, given its reliance on oil as an energy source (particularly for transport).

Response capability requirements

If a physical disruption to global oil markets did occur, the UK holds emergency oil stocks that can be released to the market as part of a collective action by member countries of the International Energy Agency. If the issue was severe, prolonged and having national impacts, there are emergency powers within the Energy Act 1976 to exert more power over the production and supply of fuels, managing demand during a genuine supply shortage.

Recovery

The UK would likely be able to meet its demand for oil and petroleum products at the market price in a short amount of time, possibly instantly, assuming that markets continue to function or can be re-established.
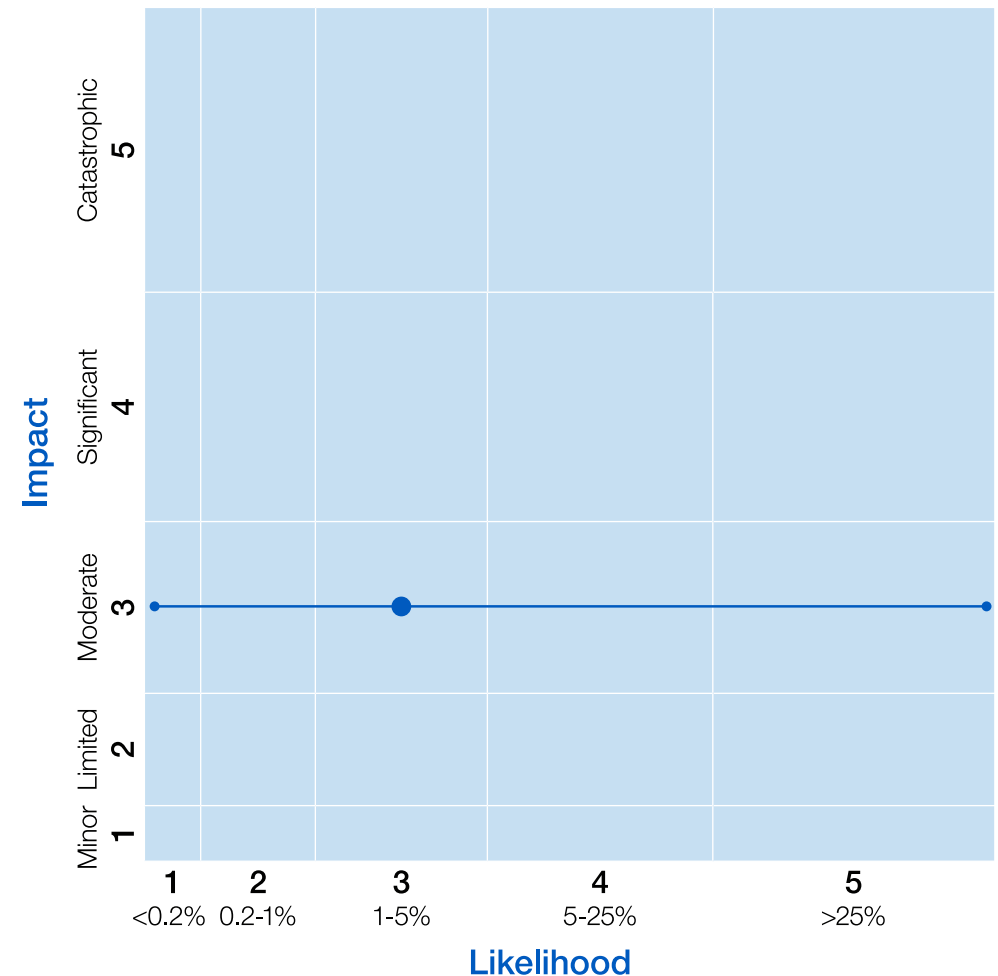
Accidents and systems failures

Major adult social care provider failure

A complex major provider failure (MPF), characterised by the suddenness of the failure and the number of local authorities and individuals affected, could occur for a number of reasons, such as cost pressures or over-indebtedness. If unmitigated, it could harm continuity of care for people with care and support needs.

The Care Quality Commission (CQC) Market Oversight Scheme, designed to monitor the financial health of major providers that are difficult to replace, should ensure local authorities are given prior warning that they may need to activate local contingency plans.

In an MPF scenario, the Department of Health and Social Care (DHSC) would also activate robust, sector-wide contingency plans designed to support local authorities (as the commissioners of adult social care) as they work to protect continuity of care.

Scenario

A complex major provider failure occurring with limited prior warning and impacting a significant number of local authorities and people with care and support needs. In this scenario, due to the scale and complexity of the failure, impacted local authorities might face challenges in discharging their temporary duty to secure continuity of care, putting the welfare of people with care and support needs at risk.
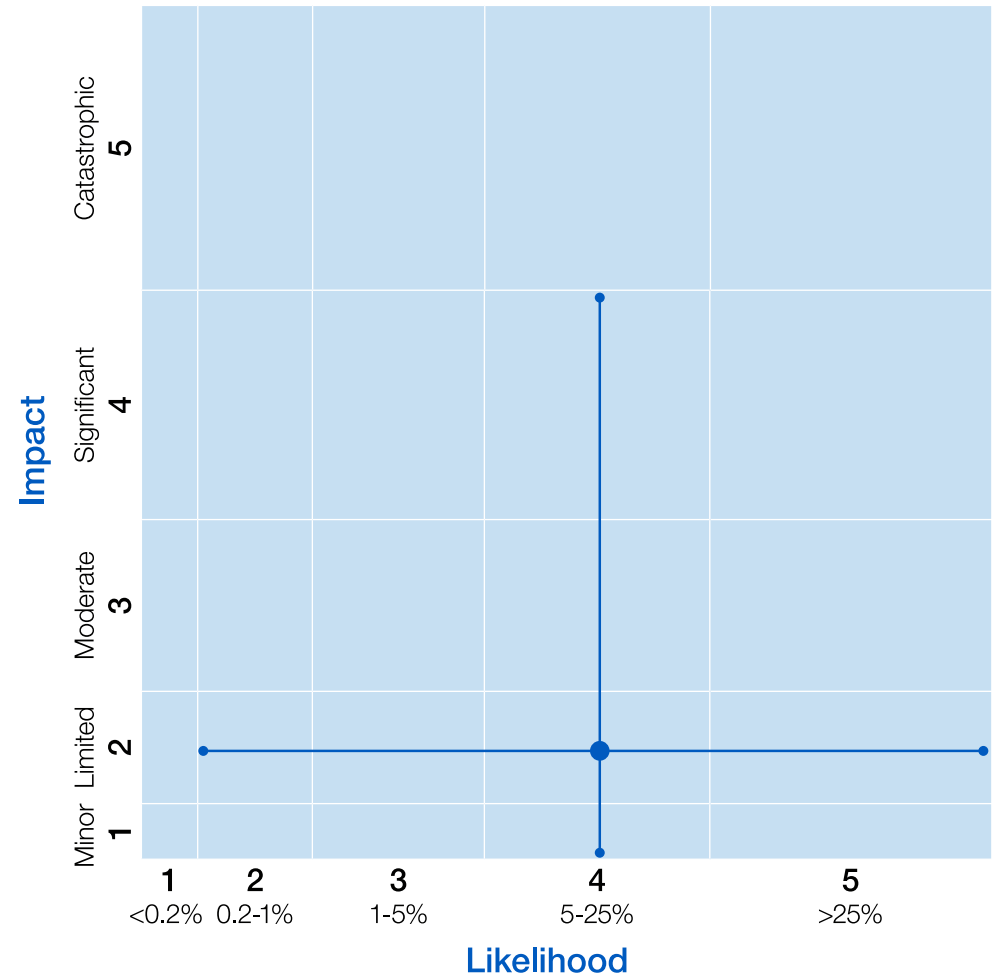
Major adult social care provider failure

Key assumptions for this scenario

The scenario assumes a complex major provider failure that involves a significant number of local authorities and large numbers of people with care and support needs. The scenario assumes that CQC, through the Market Oversight Scheme, has given local authorities prior notice that the business is likely to fail and services are likely to cease, and local authorities are in the process of rolling out their contingency plans.

Response capability requirements

The scenario reflects the CQC's key role – through the Market Oversight Scheme – in giving prior warning to impacted local authorities, ensuring they have sufficient time to discharge their contingency plans and the impacts are mitigated. The scenario is likely to put pressure on local authority resources, including social workers and adult social care commissioners. To support local authorities in discharging their temporary duty, DHSC will also activate its own MPF Contingency Plan. This will focus on convening stakeholders across adult social care – including impacted local authorities, other government departments, commercial experts, NHS England, and other sector partners – to ensure a fully coordinated response to secure continuity of care.

Recovery

Recovery time would depend on national and local market conditions.

Insolvency of supplier(s) of critical services to the public sector

There is a risk that a major supplier of critical services to public sectors could suffer insolvency. The types of critical service impacted may vary, and include (but are not limited to) IT services, banking facilities or medical sterilisation services. Any insolvency of a critical supplier could also lead to the disruption of essential public sector services. A number of risk management activities mitigate the risk of insolvency or its impacts, including ongoing commercial capability building across government and the requirement for corporate resolution plans for suppliers of the most critical contracts across government.

Scenario

The reasonable worst-case scenario of this risk is based on the insolvency of a supplier of critical IT services supporting operational systems or back office processes integral to critical national services across the country, such as emergency services communication systems, court services and customs/ immigration services and systems. Potential significant impact upon critical service operational delivery, such as lack of ability of emergency services to effectively operate, shutdown or slowdown of immigration systems resulting in reduction of UK border capacity. Ongoing projects likely to incur delays and increased costs. Strategic and political consequences are likely, such as job losses and reputational impacts for the government. Impact dependent on the nature, size and geography of service and supplier.

Key assumptions for this scenario

This scenario assumes that reasonable recovery measures are in place at customers, including government departments, but that these are not sufficient to entirely mitigate the risks associated with loss of service.
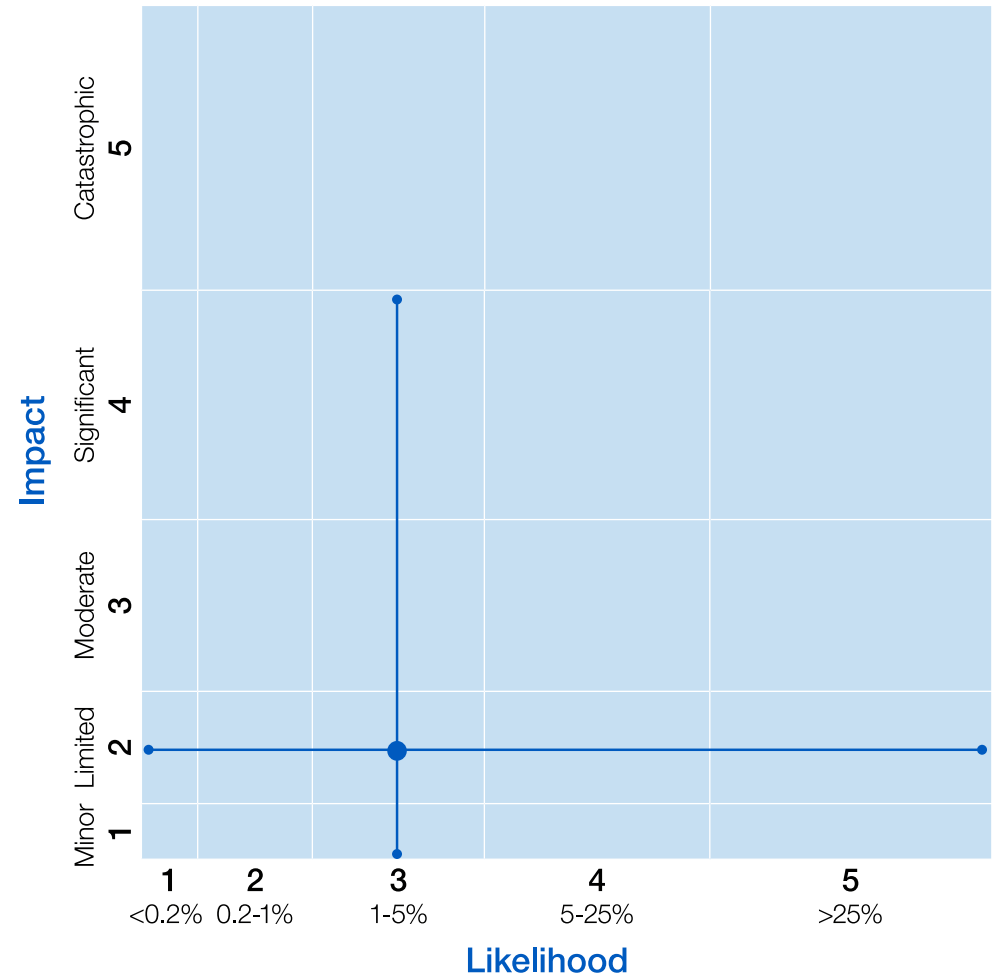
Insolvency of supplier(s) of critical services to the public sector

Variations of this scenario

Insolvencies may create secondary risks to critical national infrastructure (CNI) targets, such as cyber attacks. These may require more specialised capability and intervention to manage the risk.

Response capability requirements

Continued training on the Sourcing Playbook, the government guidance on making insourcing and outsourcing decisions, and delivering public services in partnership with the private and third sectors. This should be complemented by building commercial, financial and operational capability across government, bolstering effective contract and supplier management. Specialist capability is required to manage distress and contingency plans, such as back-up operations. Central capability in corporate finance (restructuring, insolvency, etc) and in the planning and provision of digital services and data would be required to manage the wide-ranging risks across the government portfolio. Risk mitigations, such as government intervention, should be enabled through controlled and evidenced assessment procedures and relevant legislation.

Recovery

With reasonable recovery plans in place, recovery of systems could be instantaneous or take as long as weeks, depending on the type of services and the supplier's role. Recovery of services could be hampered by backlogs as a result of outages and further work generated by the adoption of short-term manual processes.

Insolvency affecting fuel supply

The insolvency of a downstream oil sector operator could have an impact on regional fuel supply and it will be important in this scenario to ensure that there is a managed transition to the closure of the site, enabling the uninterrupted supply of fuel to customers.

Scenario

The reasonable worst-case scenario for this risk concerns an oil refinery, importation, storage or distribution company suddenly becoming insolvent. This could cause major regional disruption to the production and supply of refined fuels, impacting road transport, aviation and domestic heating fuel. The loss of fuel for heating would impact domestic customers, as well as commercial premises and care homes which are required to maintain consistent temperatures for residents. Impacts would be greatest during winter months.

Variations of this scenario

A less severe scenario would see an organised closure and sale process, giving the sector time to reorganise fuel supplies either by use of alternative supply points or through adjusting the business model of the asset to make it more viable within the sector.
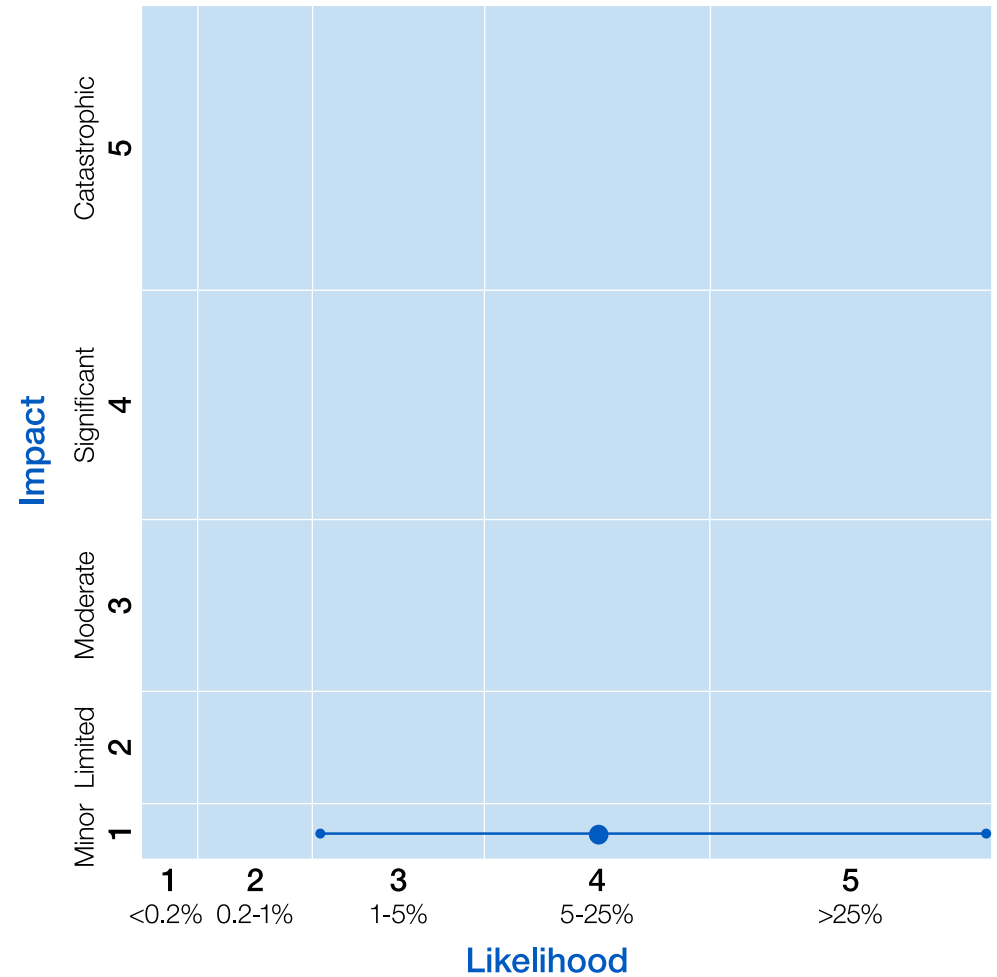
Agenda (a) / CFI(a) - National_Risk_Register_2025.pdf

Back to Agenda

Chapter 4

Accidents and systems failures

Insolvency affecting fuel supply

133

Response capability requirements

Government has established contingency plans in place to manage this risk, and these are listed in the National Emergency Plan for Fuel, including Operation ESCALIN, a fuel supply contingency measure to make trained military drivers available to support fuel deliveries. The National Emergency Plan for Fuel sets out the government's approach to maintaining fuel supplies in an emergency. The plan is for use by the government, the downstream oil supply industry, and resilience planners for local services. It includes the possibility of prioritising fuel for the emergency services and rationing fuel to retail customers using legislation under the Energy Act.

Recovery

The government expects that it may take several weeks for industry to readjust supply routes following a sudden closure of a site, but this will begin almost immediately. The government response capability will aim to mitigate the most severe impacts and ensure the readjustment of the sector supply routes happens as quickly as possible.

Rail accident

Although UK railways are among the safest in Europe, there is still a risk that a rail accident could occur. Trains operate at high speeds and constitute a significant mass, meaning that any accident has the potential for significant consequences. A recent example of a rail incident is the 2021 Salisbury rail crash, which resulted in the derailment of 2 trains and 14 injured. A robust safety framework, with an active safety regulator and independent accident investigation body, is underpinned by a legislative framework with a clear allocation of responsibilities and duties to all bodies operating on, or around the railway.

Scenario

The reasonable worst-case scenario is based on a serious rail accident that causes multiple casualties or fatalities, or significant environmental or economic damage. There would be damage to property and infrastructure within the affected area, and potential evacuation of those affected. There may also be environmental damage or contamination. Impacts on the railway network would be widespread, with lines being temporarily closed for weeks due to the damage to the infrastructure. This would impact passenger journeys by causing delays, reduce accessibility to specific regions and affect supply chains.

Variations of this scenario

A variety of circumstantial factors may contribute to the risk and impact of an accident. These include weather, human factors, time of day, speed, geography, number of passengers, contents being transported and interaction with infrastructure.
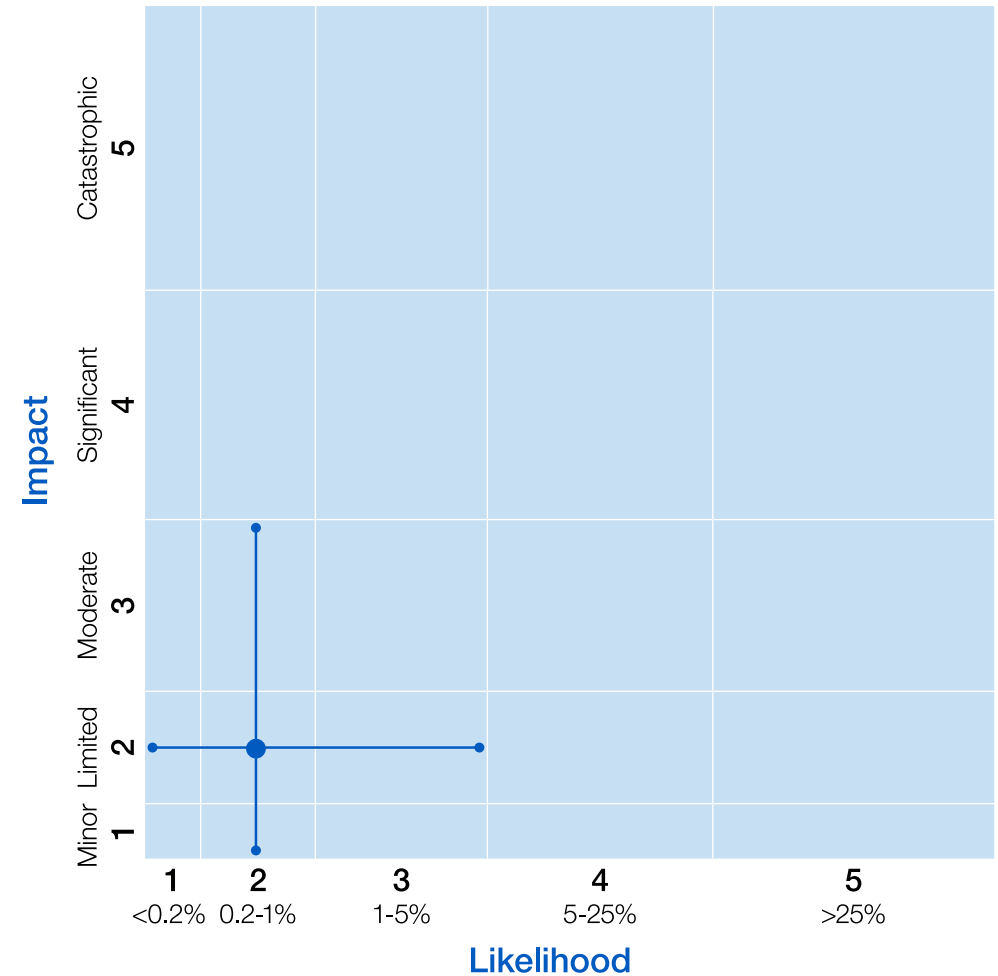
Response capability requirements

A quick coordinated response between operators, Network Rail, the Office of Rail and Road, the Rail Accident Investigation Branch, local authorities and emergency services (including police and fire and rescue services) would be required to mitigate the impacts of a rail accident and reduce potential for subsequent harm. The industry has experience of managing rail accidents and has procedures and processes in place on how to effectively respond. Where dangerous materials are involved, emergency procedures would need to be rapidly implemented working with the relevant authorities.

Recovery

Some derailments can put a line out of commission for several weeks (or up to one month or more if very severe) due to damage to infrastructure and recovery. Lines are also usually closed temporarily while authorities assess the damage and begin investigations (investigations are not always carried out, but are determined on the basis of harm/economic damage and whether new information or lessons can be learnt). The amount of time this takes will depend on the location of the site, weather, degree of damage or the complexity of factors locally. After testing, the line can be returned to service. Where an accident is caused by asset failure (for example tunnel or bridge collapse) return of service could be several months or years.

Large passenger vessel accident

There is a risk that a large passenger vessel such as a cruise ship could sink in UK waters. This is a low likelihood risk, with the last major accident on a UKflagged ship at sea having occurred in March 1987 when the Herald of Free Enterprise capsized shortly after leaving Zeebrugge en route to Dover, killing 193 people. International incidents further highlighted the seriousness of this risk should it manifest in the UK. However, the UK deals with many large passenger vessels – not just cruise ships – and has an exemplary safety record.

Scenario

The reasonable worst-case scenario is based on a large passenger vessel (for example cruise ship or ferry) sinking, potentially caused by a collision with another vessel, fire or grounding. Significant numbers of people are aboard, who rapidly abandon the vessel. There would be no-notice fatalities and a substantial number of survivors requiring medical assistance at a shoreside landing point. Older adults with the potential for age-related health and mobility issues, and who would require extra assistance, would be expected on cruise ships. The provision of immediate humanitarian assistance could take several days to complete but would likely be longer in remote parts of the UK. Salvage operations could take several years.

Key assumptions for this scenario

It is assumed for the purposes of the assessment that the incident would take place in the UK search and rescue zone, with passengers and crew being a mix of UK and non-UK nationals. The vessel would sink slowly, allowing search and rescue to take place. The damaged vessel would cause environmental damage.
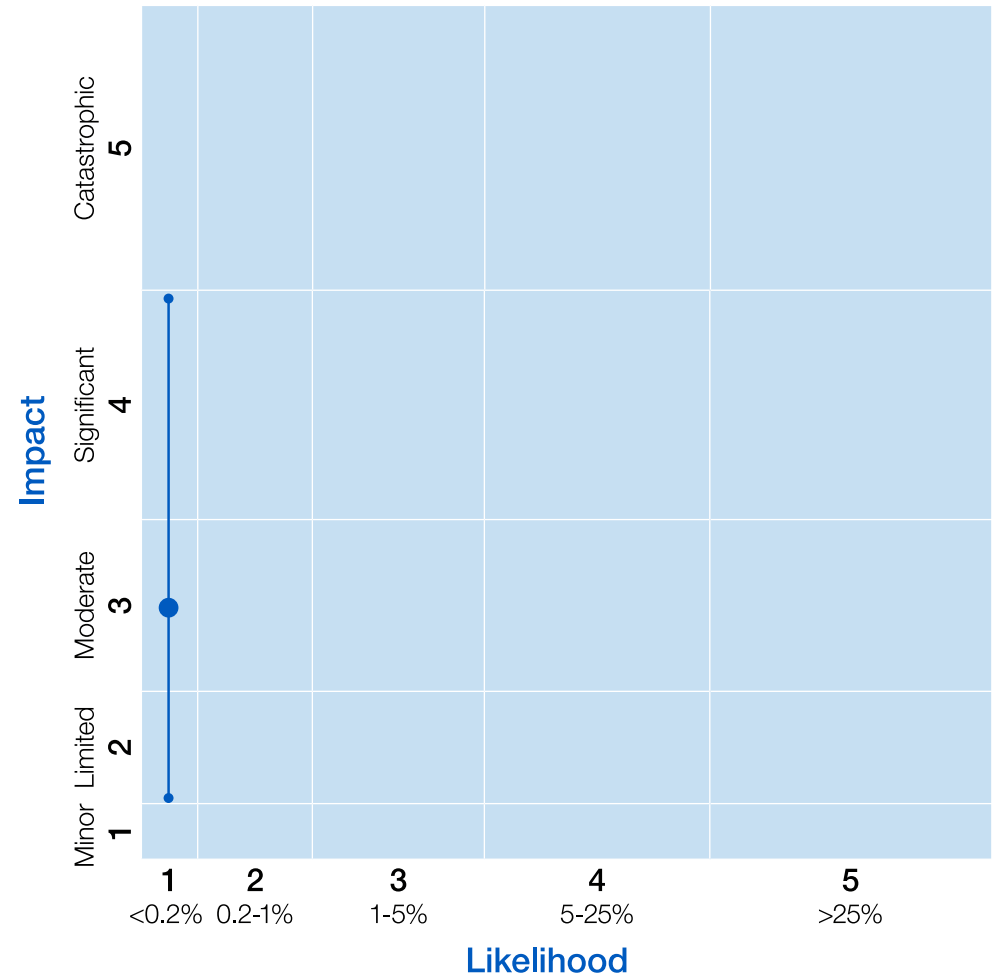
Variations of this scenario

A variation scenario is a blended incident involving very severe weather, partial abandonment, and one where significant pollution is involved. This would alter the capabilities and subsequent incident management required.

Response capability requirements

Local level plans are in place to coordinate and respond to the need to provide medical assistance, decontamination, accommodation and repatriation to people landed; however, there are fewer capabilities to do this in more remote locations. Specific requirements include: casualty triage; decontamination; ability to reunite families; language interpretation for foreign nationals; border force; and Foreign, Commonwealth and Development Office input to assist persons without documentation, medication or accommodation. Port security may need consideration and communications capabilities between agencies landside and maritime at the landing point need to be strong. A robust capability to count and track casualties and survivors is required.

Recovery

Recovery in terms of shoreside impacts where casualties are landed would be in the order of days and weeks and managed through existing plans and recovery arrangements in place at the local level. The exception would be remote, small communities who are involved in the response (for example Western Isles) where the incident may leave a lasting impact on the community. Recovery of the vessel and pollution are managed through the National Contingency Plan and commercial salvage routes (see Maritime Pollution Risk). If access to a port is impacted, recovery may take weeks to months.

Major maritime pollution incident

There is a risk of major maritime pollution in UK waters, which could result from the accidental spillage of oil from tankers or leakage from pipelines. These incidents are infrequent but do occur on occasion. For example, hundreds of barrels of oil were recorded to have spilled into the Irish Sea in 2022 following a pipeline leak off the coast of Wales. The UK has plans and procedures in place to deal with pollution at sea in order to quickly respond, limit and reduce impacts on the environment, marine habitats and local coastal communities, working with local authorities, resilience forums and emergency services to communicate and plan for such eventualities.

Scenario

This scenario involves the spillage of 100,000 tonnes of crude oil into UK coastal waters. The cause could be vessel collision, fire or grounding. The spillage results in up to 200km of UK coastline being contaminated with the associated environmental impacts. Depending on the type of oil and extent of the contamination, there could be impacts on land, water, animal welfare, agriculture, waste management and air quality. An extensive clearup operation on shore may be needed as well as some long-term restrictions on local fishing in the affected area.

Key assumptions for this scenario

The scenario assumes that a fully laden oil tanker leaks in UK coastal waters. The vessel would not sink or prevent access to liquified natural gas terminals or port infrastructure.
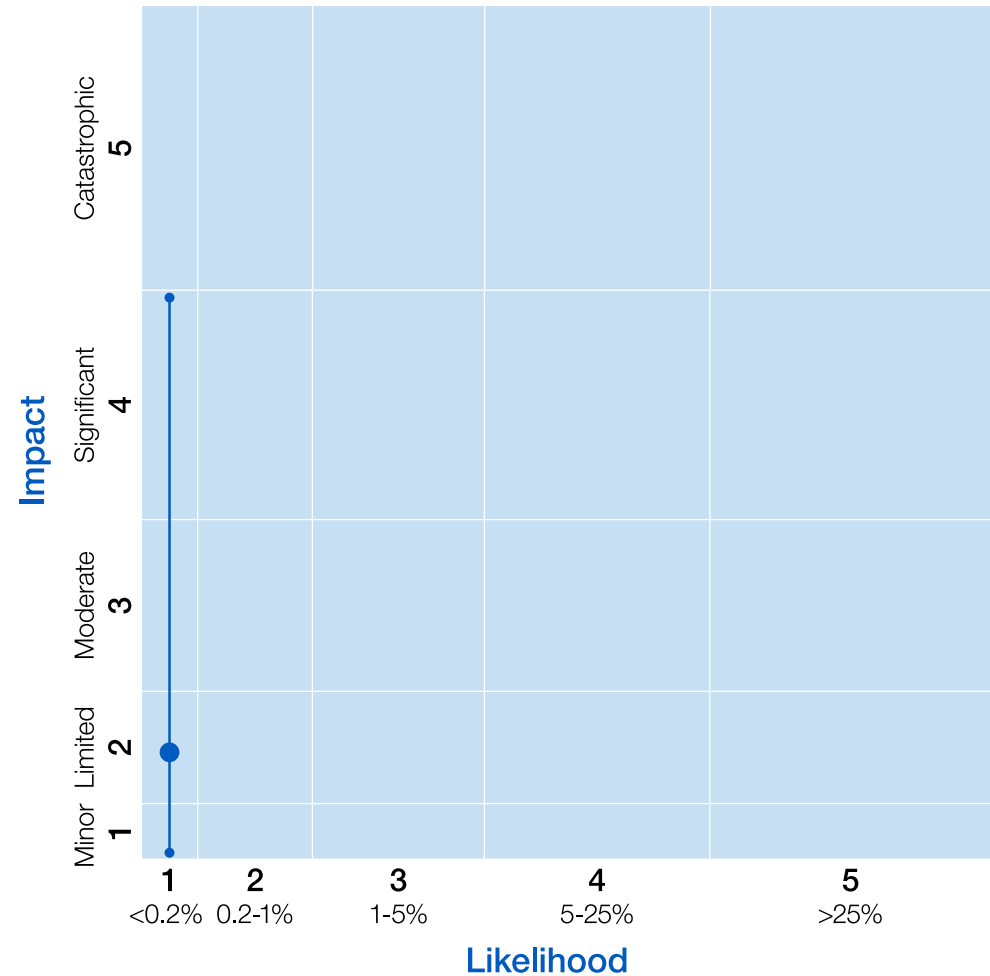
Major maritime pollution incident

Variations of this scenario

A more impactful scenario would be an oil spill near a populated area, disrupting the safe and efficient operation of a major port. This is less likely due to the compulsory use of experienced pilots within port boundaries. A small vessel could run aground and leak a small volume of fuel but containment, clean-up and vessel refloating is straightforward. A less likely, but more impactful, scenario would occur if the ship were to sink or oil ignites and lives are put in danger.

Response capability requirements

The strain on subcontractors and wildlife conservationists would be significant. There would be a need for recovery vessels to be deployed to remove the excess oil. The Maritime and Coastguard Agency (MCA) would need to work with shipowners, the Secretary of State's Representative, salvors, and ship insurers to organise the removal of the vessel (if safe to do so). Local authorities, the Environmental Agency and environmental groups would need to assess the damage to the coastline, marine life and wildlife. Local fishery restrictions would be applied while a full investigation is undertaken, which could last at least a year.

Recovery

Recovery may take several years. Satellites would be used to assess and monitor oil spread and movement to ensure that oil recovery vessels are deployed appropriately. A significant clean-up operation of up to 1,000 people would be required to return the coastline, beaches and wildlife to a natural environmental state. The Royal Society for the Protection of Birds would need to set up a temporary bird and marine life hospital to treat as many birds and seals as possible. The MCA would be responsible for managing stand-by response vessels. An investigation by maritime accident investigation would be required. Additionally, there would be fishery restructuring required and severe economic impacts locally.

Incident (grounding/sinking) of a vessel blocking a major port

There is a risk that an accident involving a vessel could block a major UK port. The consequences of this risk were observed in the Suez Canal in 2021, which was blocked by one of the largest container ships in the world as a result of it running aground. This resulted in delays to hundreds of vessels waiting to transit through the canal and had significant impacts on trade. The UK has plans and procedures, maintained and executed through the Secretary of State's Representative (SOSREP), to deal with major salvage incidents. The SOSREP will oversee the recovery operations developed by vessel owners and any appointed salvors. Where a counter pollution response component exists within these plans, the Maritime and Coastguard Agency's Counter Pollution and Salvage team will ensure that arrangements are in place to quickly respond, limit and reduce impacts on the environment, marine habitats and local coastal communities.

Scenario

The reasonable worst-case scenario is based on a vessel grounding or sinking, which results in the blockade of a major container port. The port would be unable to commercially operate in any significant capacity for a number of months. Cargo would no longer be able to transit through the port to enter into the UK, potentially impacting critical supply chains. Ships would need to be rerouted, which would be challenging due to their size and the infrastructure required to accommodate them and their critical goods. As a result of the grounded or sunk vessel, boat crew and/or passengers would need to be provided with shelter and treatment for any injuries sustained. There may also be a possible environmental impact from the incident where pollutants are spilt into the sea.
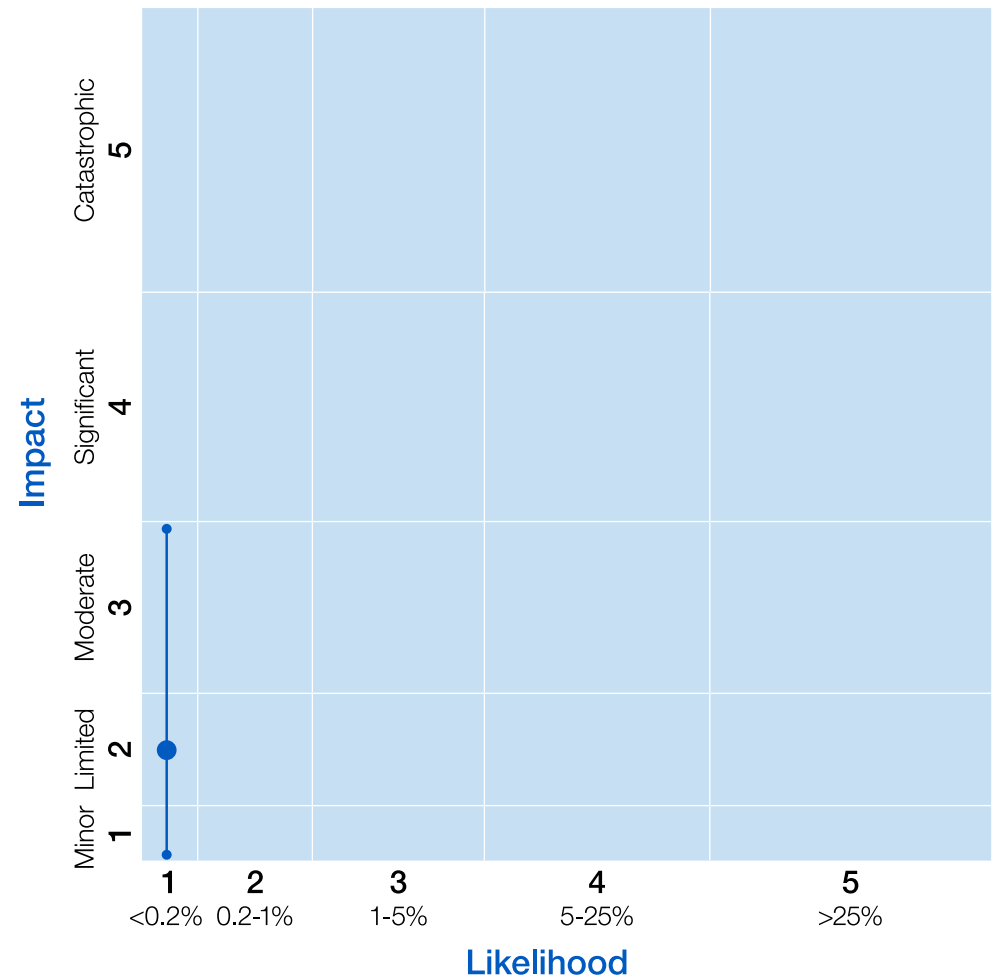
Incident (grounding/sinking) of a vessel blocking a major port   141

Key assumptions for this scenario

The incident would be the result of extreme weather, or human or technological failure. The port would be able to resume limited activity in the short term by dredging or removal of the wreck. Variations of this scenario A vessel grounding is more likely than a vessel sinking. Grounding is easier to resolve through refloating rather than the salvage of a wreck. The business operation of the port would be expected to continue at a reduced capacity. Where critical cargo such as ultra-cold supply chains (for example some vaccines) are impacted due to specialist infrastructure required at ports, vital goods may be lost by not being able to store them correctly.

Response capability requirements

Generic emergency response capabilities such as search and rescue and policing would be required, alongside specialist environmental support and support for victims of the accident. Salvage capability and expertise would need to be imported, which could take months. Dredging can be time consuming and bureaucratic; the government may need to intervene to accelerate the process. If an uninsured vessel is involved, the government may need to provide financial assistance. Direction from the government will be vital in ensuring critical goods are given appropriate priority to meet national needs.

Recovery

Recovery length would depend on the nature of the incident, the location, accessibility to the wreck and availability of specialists to conduct the wreck removal. Partial recovery would be possible by dredging another channel where possible. Insurance would likely protect the facility from financial hardship during this time, but returning to business would be the port's priority.

Accident involving high-consequence dangerous goods

High-consequence dangerous goods may include corrosive, flammable, explosive, oxidising or spontaneously combustible substances. These inherent properties mean that an accident involving high-consequence dangerous goods could have serious impacts, such as mass casualties or destruction to buildings. However, there are regulations in place (the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009) to ensure that these substances are transported safely and securely so that accidents like the reasonable worst-case scenario below are unlikely to happen.

The regulations require, among other things, that drivers of dangerous goods vehicles are trained in the hazards presented by the loads they are carrying and what to do in the event of an accident. Such training is examined and evidenced by an additional driving licence specifically permitting the driver to carry such loads. Additionally, each undertaking involved in the consigning, carriage, or the related packing, loading, filling or unloading of dangerous goods is required to employ the services of a dangerous goods safety adviser. The adviser is responsible for helping to prevent the risks inherent in such activities with regards to persons, property or the environment. Further, it is a requirement that such dangerous goods are identified by appropriate placarding of the vehicles, highlighting the type of dangerous goods carried.
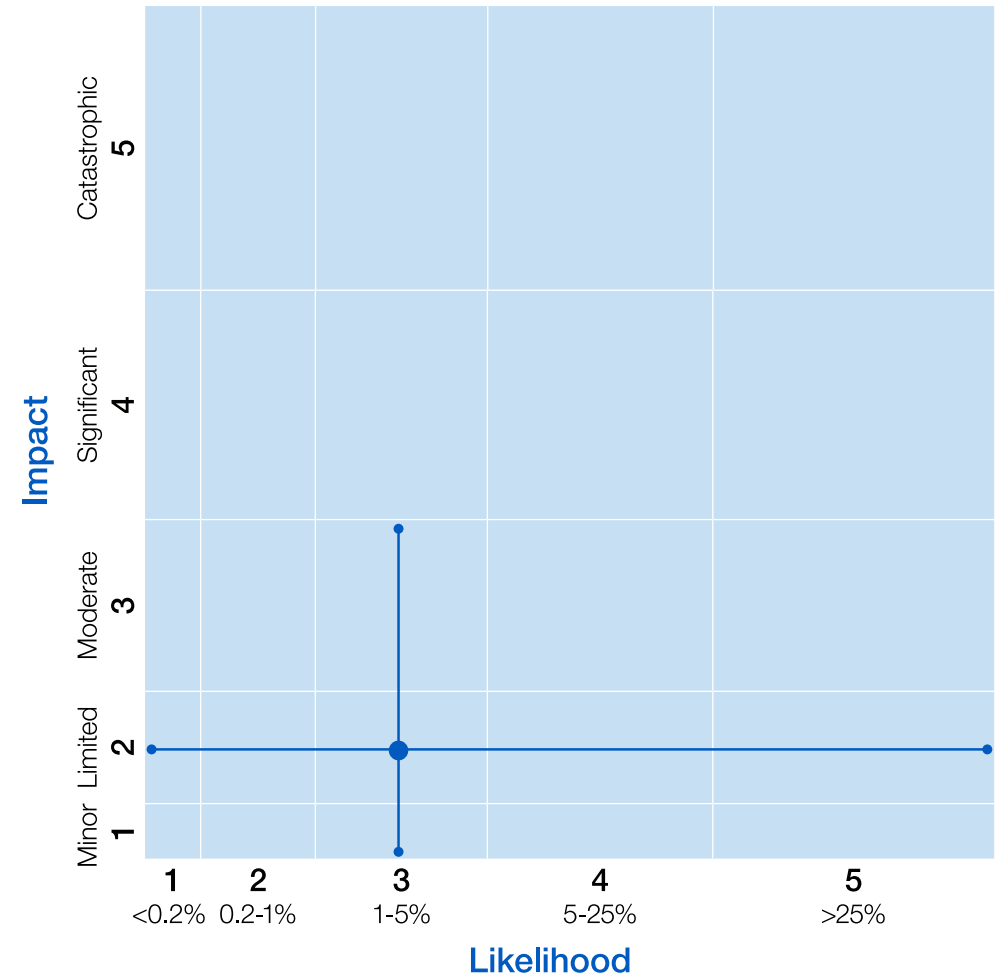
Accident involving high-consequence dangerous goods

Scenario

The reasonable worst-case scenario assumes that a single road tanker containing high-consequence dangerous goods is involved in an accident, which results in a fire or explosion in an urban area. This would likely lead to road closures of several days, significant local infrastructure damage (road, buildings and bridges), and as a consequence, alternative routing and evacuation of surrounding areas.

Depending on the substance there could also be a risk to the environment, but assuming most of the substance is consumed in the fire, risk of entry into water courses would be minimised. There would also be a small number of casualties and fatalities. The types of substances that could be involved include flammable gases or liquids, substances liable to spontaneous combustion, ammonium nitrate and corrosive substances.

Key assumptions for this scenario

It is assumed that the accident would occur in an urban area on a motorway or dual carriageway and impact housing and other infrastructure nearby. It is also assumed that the vehicle is carrying a full load of dangerous goods meeting the definition of high consequence dangerous goods.

Variations of this scenario

A less-impactful variation could see an accident in a rural area or with less dangerous goods carried, while a more impactful but significantly less likely variation could see a malicious incident involving more than one high-consequence dangerous goods vehicle.

Response capability requirements

Depending on the substance carried (for example corrosive substances), decontamination may be necessary. There may also be a need for some follow-up communications with the local area regarding possible measures to limit impact from any future accidents.

Aviation collision

UK airspace and UK airlines are among the safest in the world. There has not been a fatality on a commercial passenger airline in the UK since 1989. Even with this success, the government is not complacent and is committed to maintaining and improving the high safety standards in aviation. This is done via a programmatic approach, with the Department for Transport spearheading the State Safety Programme. This involves overseeing risk management across aviation and ensuring effective safety management systems are in place across diverse organisations with a stake in aviation safety oversight to effectively mitigate risk – working closely with the Civil Aviation Authority and other key partners.

Scenario

The reasonable worst-case scenario for the purposes of the assessment is based on an airborne collision involving a commercial airliner and a business jet over a major urban area as the aircraft is approaching the airport. This results in 100% fatalities of passengers and crew on board the aircraft, with further fatalities and casualties on the ground due to falling debris. Debris would also cause damage to buildings and road or rail transport in the affected area. This would require decontamination services to clean up aircraft fuel that is spread over a wide area. There would likely be closures to the airspace over the UK and the airport until the cause of the collision is established.
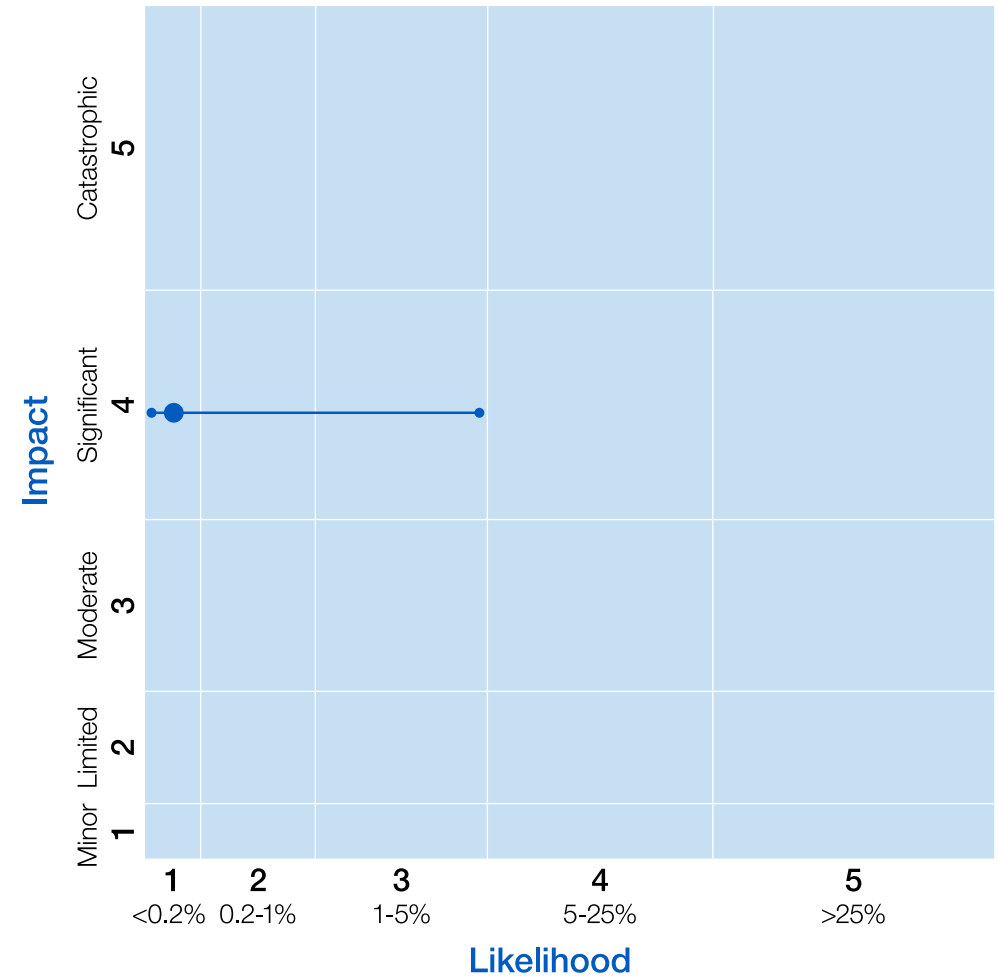
Aviation collision

Key assumptions for this scenario

It is assumed that measures to mitigate risks to aviation safety are broadly as effective as they were in 2018 when the last assessment was carried out. However, this assumption is tested by the Civil Aviation Authority (CAA) iteratively, and any changes to baseline effectiveness will be reflected in future updates.

Variations of this scenario

Other plausible scenarios leading to an aviation crash include Controlled Flight into Terrain, pilot suicide and an uncontrolled lithium battery fire leading to a loss of aircraft. A more impactful but less likely variation could see a mid-air collision of 2 of the largest type of commercial airliners. A less-impactful variation includes the collision of 2 aircraft over a suburban or rural area, resulting in significantly lower numbers of fatalities and casualties.

Response capability requirements

A range of capabilities would be required at the local and regional level in response to the risk occurring, including local authorities and emergency services. There would be a need for decontamination services to clean up aircraft fuel. Structural engineers and builders would be needed to assess the damage from fallen debris and subsequent rebuilding of buildings and infrastructure across a wide area. The Civil Aviation Authority (CAA) and Air Accidents Investigations Branch would assess the cause of the collision and provide assurances that aircraft were safe to fly before UK airspace could be reopened.

Victim support would be required for the casualties on the ground and for those in the immediate vicinity of falling debris. It may require engagement with other governments or other services (such as any non-government organisation involved in family assistance for victims of a crash) depending on the nationality of people involved.

Recovery

It could take several months to clear the debris and rebuild infrastructure, with possible residential and commercial evacuations needed while repairs take place. The recovery and identification of the deceased could take months and would be complex due to the sheer scale of the collision.

Malicious drone incident

The use of drones has increased significantly in recent years, both for business and pleasure purposes. UK law dictates that registration with the Civil Aviation Authority (CAA) is mandatory for operators of drones over 250 grams and all drones other than toys that are fitted with a camera. It is illegal to fly in an airport's flight restriction zone unless specific permissions have been granted.

There are multiple ways in which a drone could be used maliciously. In 2018 a sighting of a drone at Gatwick airport resulted in significant disruption to flights. Work is ongoing between various government departments, the CAA, industry, and police to maintain risk analysis and continually strengthen mitigations against future malicious drone incidents.

Scenario
One planning scenario is based on the malicious use of a drone at an airport, which could cause disruption and safety concerns. We actively plan for all types of potential disruption and threat that may result from negligent, criminal, or terrorist use of drones, not just that of airport disruption.

Key assumptions for this scenario
Assumptions vary by scenario, however for the airport disruption scenario described above: The risk would not occur at the same time as another major event and the perpetrator is assumed to have malicious intent.

Response capability requirements
Relevant capabilities will vary by scenario. For the airport disruption scenario described above: Specialised police counter-drones capabilities would be required to respond to the incident. Police work, alongside further investigative methods (for example forensic scrutiny of a downed drone), would be used to identify and apprehend malicious users.

Disruption of space-based services

Space-based services such as satellite communication and remote sensing technology are components of the UK's critical national infrastructure (CNI) that enable many essential services to function. Damage to any of these technologies would have a severe effect on multiple sectors, with strategies to help mitigate damage or disruption including the removal of debris from orbit, setting up alternative terrestrial-based services, and developing space situational awareness.

Scenario

The reasonable worst-case scenario assumes that the collision of debris with a satellite produces a debris field that collides with and disrupts other satellites. This would cause a cascade of debris that impacts other satellites and creates further debris. A wide range of space-enabled services would be disrupted or disabled. The disruption to space operations would severely impact the space sector economy. Similarly, essential services such as financial market infrastructure, communications, government services, emergency services and transport infrastructure would be impacted due to their reliance on space sector technologies.

Key assumptions for this scenario

It is assumed that the chance of any debris fragment hitting the UK is extremely unlikely.
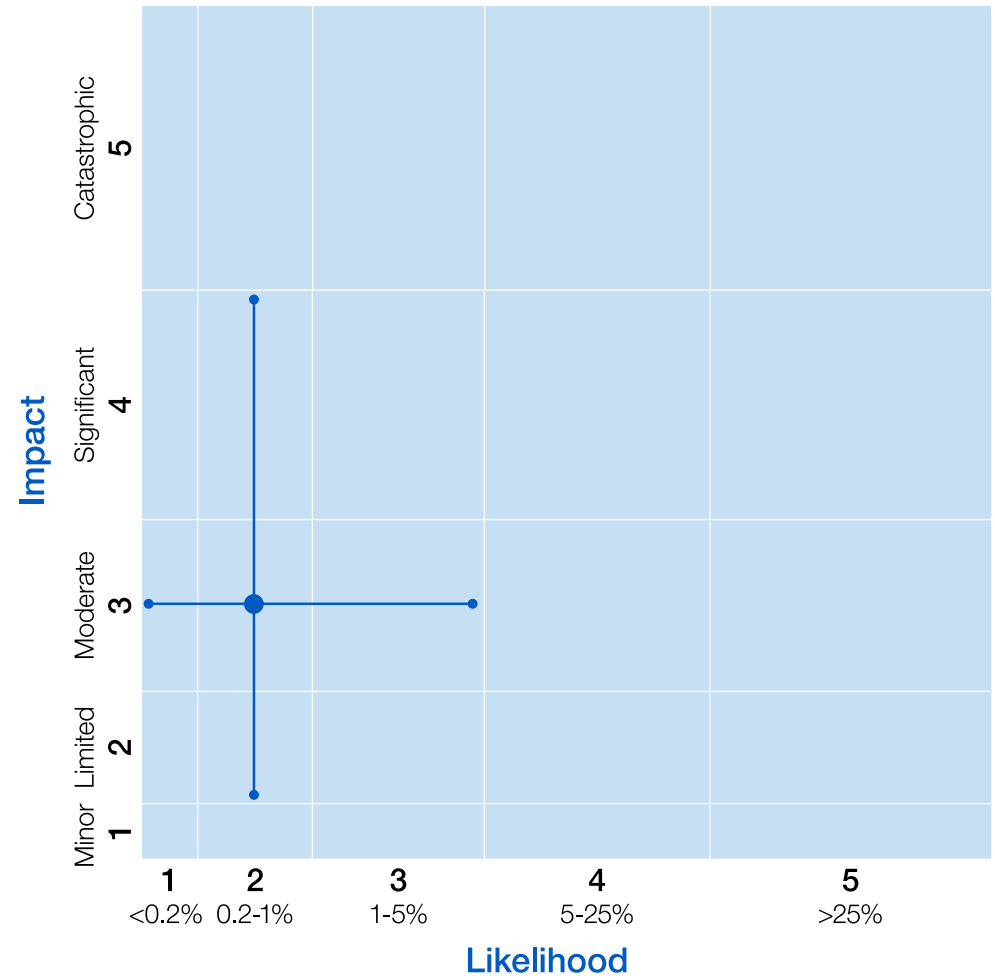
Disruption of space-based services   148

Variations of this scenario

Variations include severe space weather disruption to services and a malicious attack on space infrastructure. These variations would generate similar impacts to space-based services on the ground, albeit with differences in scale, depth and duration.

Response capability requirements

Robust resilience and identification of backup systems for CNI that relies on space-based services would be required. There also would need to be strong space situational awareness nationally to task sensors on to specific incidents, and globally to deliver a persistent environmental picture for operators. Coupled with this, an enhanced National Space Operations Centre would be required to provide tracking and monitoring data, warnings and reports, and supporting response and recovery measures to protect government equities in the space domain.

Recovery

Recovery would depend on debris dispersal, with potential impacts on future space operations and associated businesses.

Loss of Positioning, Navigation and Timing (PNT) services

PNT services are a critical component of the UK's infrastructure. They facilitate a diverse range of essential functions across an increasingly interconnected society. For example, PNT is essential for telecommunications, transport navigation and providing precise timings. A loss of PNT services, either due to technological failures or malicious activity, would have catastrophic and cascading effects across the UK and globally.

Scenario

The reasonable worst-case scenario is based on a severe technical failure, due to either hardware failure or human error, in a Global Navigation Satellite System constellation leading to data corruption of that service. This would result in inaccurate position and timing data being delivered to users in space and around the world. The compound series of both technical failure and human error means the service would have no choice but to cease operations. There would be a significant disruption or complete cessation of transport (including aviation and maritime services), communications networks, financial services, energy and emergency services within a few hours of the incident taking place. There is also possible further disruption to other space-based services.

Key assumptions for this scenario

Sectors would revert to older technologies or alternatives to allow for ground services to resume during an extended outage.
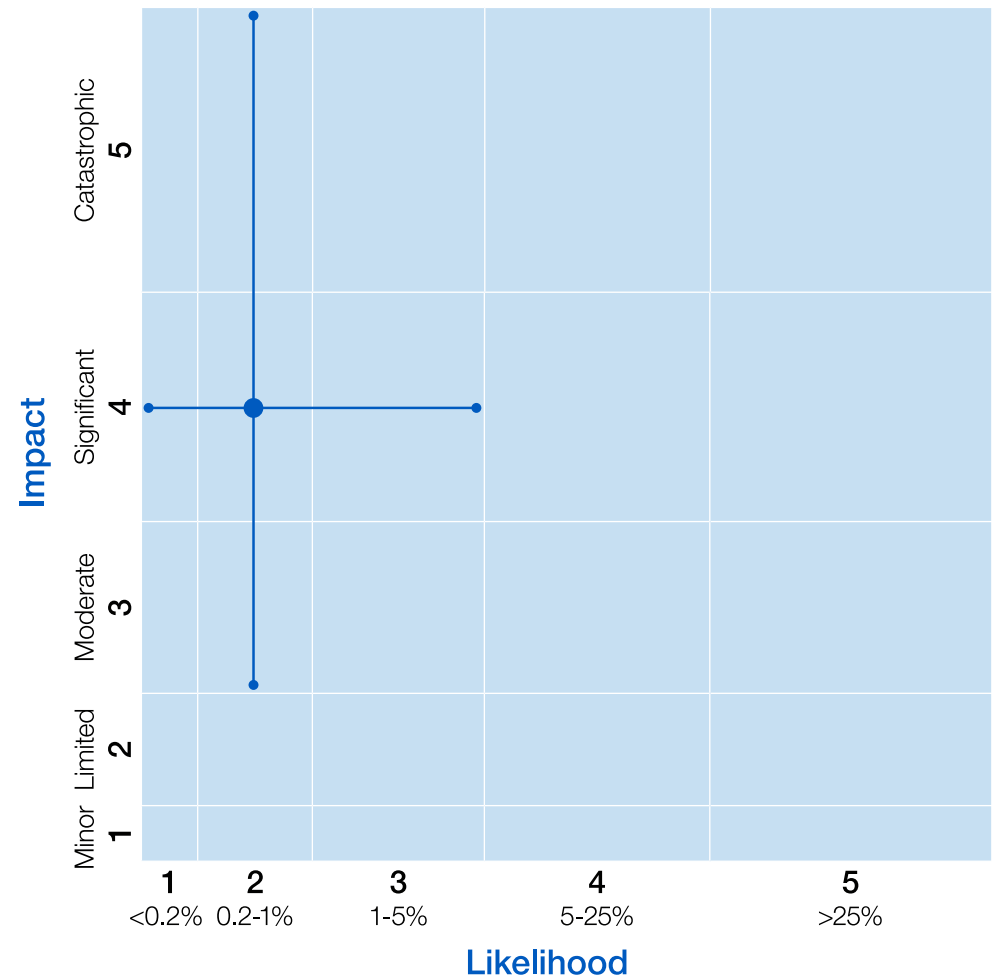
Loss of Positioning, Navigation and Timing (PNT) services

Variations of this scenario

Variations include serious and organised crime, jamming and spoofing activities leading to a loss of PNT services, state threat to PNT services, and severe space weather disrupting satellite provision of PNT services. While the impacts are likely to be similar, there would be differences in responses required and the recovery times.

Response capability requirements

Resilient backup systems for critical infrastructure relying on space-based services would be needed, alongside greater space situational awareness nationally and globally.

Recovery

The restoration of full functionality could take up to several weeks, with some ongoing issues with services. Mitigation includes access to other space satellite services and other sources of PNT.

151

Simultaneous loss of all fixed and mobile forms of communication

The simultaneous loss of access to all fixed and mobile forms of communication is a form of systems failure that may occur as a result of severe weather. Major storms can cause significant disruption to broadband and mobile infrastructure potentially leading to outages for customers. Ofcom places a regulatory obligation on communications providers to take 'all necessary measures to ensure uninterrupted access to emergency organisations' for their customers, and has issued guidance to protect access to emergency organisations when there is a power cut at the customer's premises.

Scenario

This scenario assumes that all mobile and fixed-line (landline and internet) connections would be lost immediately as a result of a hazard materialising, such as a severe storm or flooding. The incident would affect one region, with most fixed-line connections remaining offline for several days due to a lack of power at the customer premises and damage to overhead cables. All mobile connections in the region would be disabled temporarily until mobile network operators deploy back-up generators to mobile cell sites.

Key assumptions for this scenario

The risk is cause-agnostic and only considers public communication networks (not private networks). It assumes that most domestic premises affected do not have a back-up power supply and the resilient communication systems used by emergency services would not be affected.
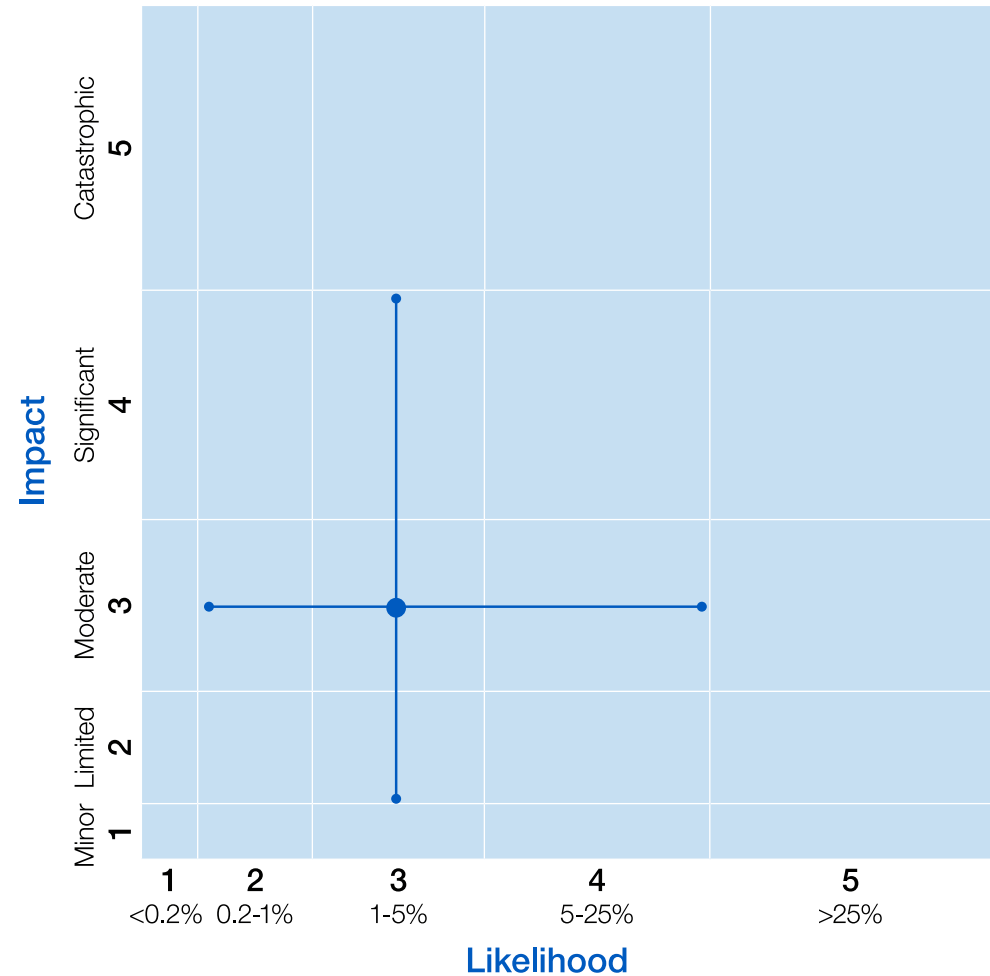
Simultaneous loss of all fixed and mobile forms of communication   **152**

Variations of this scenario

Variations include the scale, services impacted, and the length of disruption. Recent severe storms Arwen and Eunice are recent examples of a similar scale event. Storm Arwen (November 2021) was most severe, resulting in millions of customers losing access to mobile and fixed-line connections.

Response capability requirements

All affected customers would be unable to call 999/112, requiring a full response from Local Resilience Forums and their devolved government equivalents, government, and local authorities to mitigate against this. Proactive checks for the most vulnerable would be required, especially if they do not have any alternative means to communicate. Resilient communications would need to be established for responders (either via long-range radio or satellite comms); or an alternative power source will be required to power communications equipment.

Recovery

Telecommunication equipment would be very quick to recover, providing the cause of the outage does not persist. Flooding may take longer to recover from as most affected equipment would need to be replaced. Additionally, telecoms equipment is often replaced every 2-5 years and so the sector is well-practised in the quick replacement and repair of equipment, or rerouting of traffic across the network, to minimise disruption to the network. Engineers and recovery assets are also dispersed evenly across the UK, meaning response times would be similar – regardless of what region is affected.

Failure of the National Electricity Transmission System (NETS)

The National Electricity Transmission System (NETS) transports electricity across Great Britain. A failure of this system has the potential to severely disrupt all other critical systems, resulting in greater consequences than typical utilities failures. Great Britain has never experienced a nationwide loss of power and the likelihood is low, however similar events have occurred internationally. In 2019 in South America, millions were left without power following a failure in the electricity system. Great Britain has one of the most reliable energy systems in the world and maintaining a secure electricity supply is a key priority for the government.

Scenario

The reasonable worst-case scenario is based on total failure of the NETS, which would cause a nationwide loss of power. All consumers without backup generators would lose their mains electricity supply instantaneously and without warning. A nationwide loss of power would result in secondary impacts across critical utilities networks (including mobile and internet telecommunications, water, sewage, fuel and gas). This would cause significant and widespread disruption to public services provisions, businesses and households, as well as loss of life. Reasons for failure could include an extreme weather event, a cyber attack and cascading technical failures.

Key assumptions for this scenario

For the purposes of the reasonable worst-case scenario it is assumed that the event occurs in winter when there is a high demand for electricity.
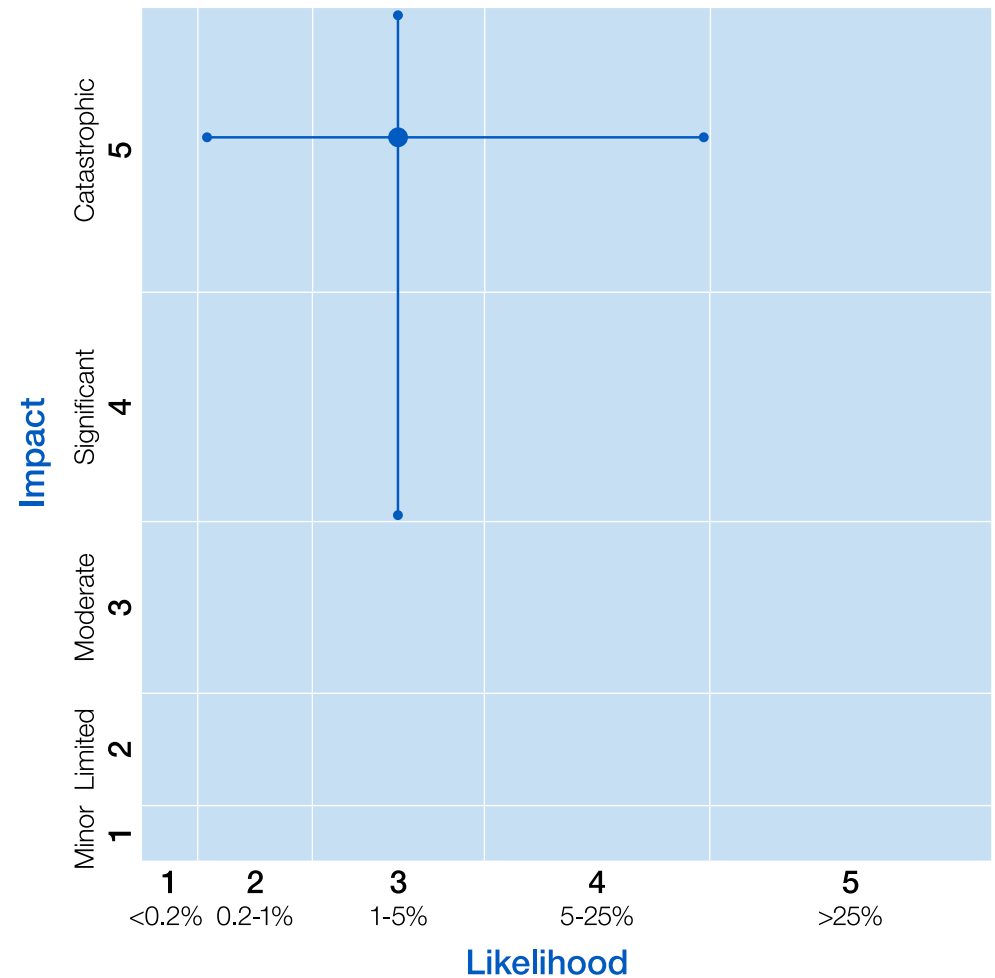
Failure of the National Electricity Transmission System (NETS)

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution. It would be vital to ensure that fuel is available to priority users and can be distributed quickly across the country as required. To support the immediate aftermath of the incident, resilient communications systems, humanitarian assistance and victim support should be in place.

Recovery

Within a few hours, small pockets of consumers would be gradually reconnected with intermittent power supply, with a significant proportion of demand being reconnected within a few days to create a stable 'skeletal network'. Full restoration could take up to 7 days, however, depending on the cause of failure and damage, restoration of critical services may take several months. As the electricity network is often more complex in urban regions, it is likely that rural areas will receive power more quickly. Due to the geographical distribution of generation across Great Britain, northern regions may receive power more quickly.

Regional failure of the electricity network

A regional failure of Great Britain's electricity network could impact millions and may result from extreme weather causing damage to local infrastructure. Severe winds could bring down overhead cables, or localised flooding might affect a specific power substation. In recent years, Great Britain has experienced smaller-scale regional electricity failures, including those caused by storms Arwen and Eunice in winter 2021/2022 where thousands of homes were left without power. As a result of the government's post-incident review of these storms, industry has taken several steps to improve the electricity sector's physical resilience to future severe weather events, as well as the protections and support available to consumers. These actions will aid in mitigating against larger-scale regional electricity failures.

Scenario

The reasonable worst-case scenario is based on a significant failure of the electricity network across several regions of Great Britain leading to the loss of power across the affected regions. Impacts would vary depending on which regions are affected and the scale of the disruption. This would result in some failures across utilities, causing disruption to public services as well as domestic households and businesses. It is expected that telecommunications systems and transport services (rail, road and aviation) would be disrupted due to the failure of electronic systems.

Key assumptions for this scenario

This scenario is cause agnostic but would likely be the result of extreme weather, with greater impacts in winter. This is a regional scenario which would not cause nationwide disruption.
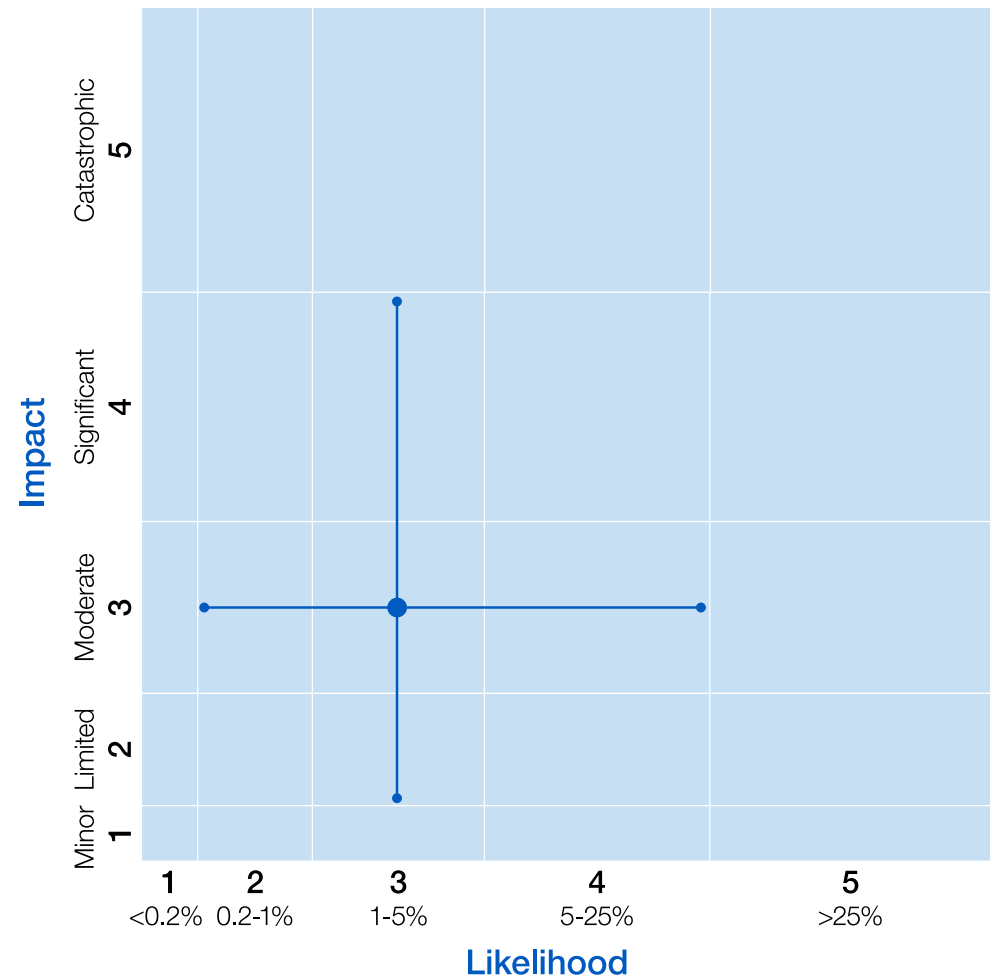
Regional failure of the electricity network

Response capability requirement

If caused by storms, forecasting would allow government, industry and local authorities to prepare. Specialist equipment and additional workforce would be required, including readying engineers and other workers, cutting down trees near infrastructure, setting up welfare stations for members of the public, and preparing back-up generators to reconnect small numbers of customers quickly. Urban areas would require a different response to rural areas due to higher population densities and infrastructure dependence. Network operators and Strategic Coordinating Groups would coordinate to provide welfare support to customers. Enhanced support, such as alternative accommodation, may be provided to the vulnerable.

Recovery

Most customers (domestic and business) would be reconnected on a staggered basis within hours. However, when damage is widespread, or impacts locations on the more remote parts of the network, it could take several weeks to fully restore all customers. This is due to the difficulties of accessing remote locations and the amount of time needed to repair physical damage.

Failure of gas supply infrastructure

The UK has a diverse and highly resilient gas network. Industry works to continuously minimise the risk of unplanned disruption while taking the risk of such outages into account in forward planning. Natural gas is a crucial fuel source that is used to heat homes and businesses, generate electricity or act as a feedstock for industrial processes across the UK. Though unlikely, a failure of gas supply infrastructure may result from a technical issue or accident, with serious impacts on human welfare, essential services and the economy.

Scenario

The reasonable worst-case scenario is based on a technical failure or accident causing a significant loss of UK gas supplies in winter. Domestic gas customers in the region would not lose their gas supply. If the loss of supply led to a gas shortfall, emergency procedures could be required to safely balance and maintain pressure on the network by stopping supply to large industrial users, including a proportion of gas-fired power stations (as the largest users). Disconnecting gas supply to electricity generator stations could cause a shortfall in electricity supply. The scale of disruption to power supplies will depend on electricity demand and availability of wind and nuclear generation.

In the event of a prolonged electricity supply shortfall, rolling power cuts lasting 3 hours a time may be required to balance supply and demand. Within this process, critical sites would be protected from disruption, with the remaining disconnections being evenly distributed across Great Britain. Further information on established emergency procedures for a gas or electricity emergency can be found in the National Emergency Plan for Downstream Gas and Electricity.
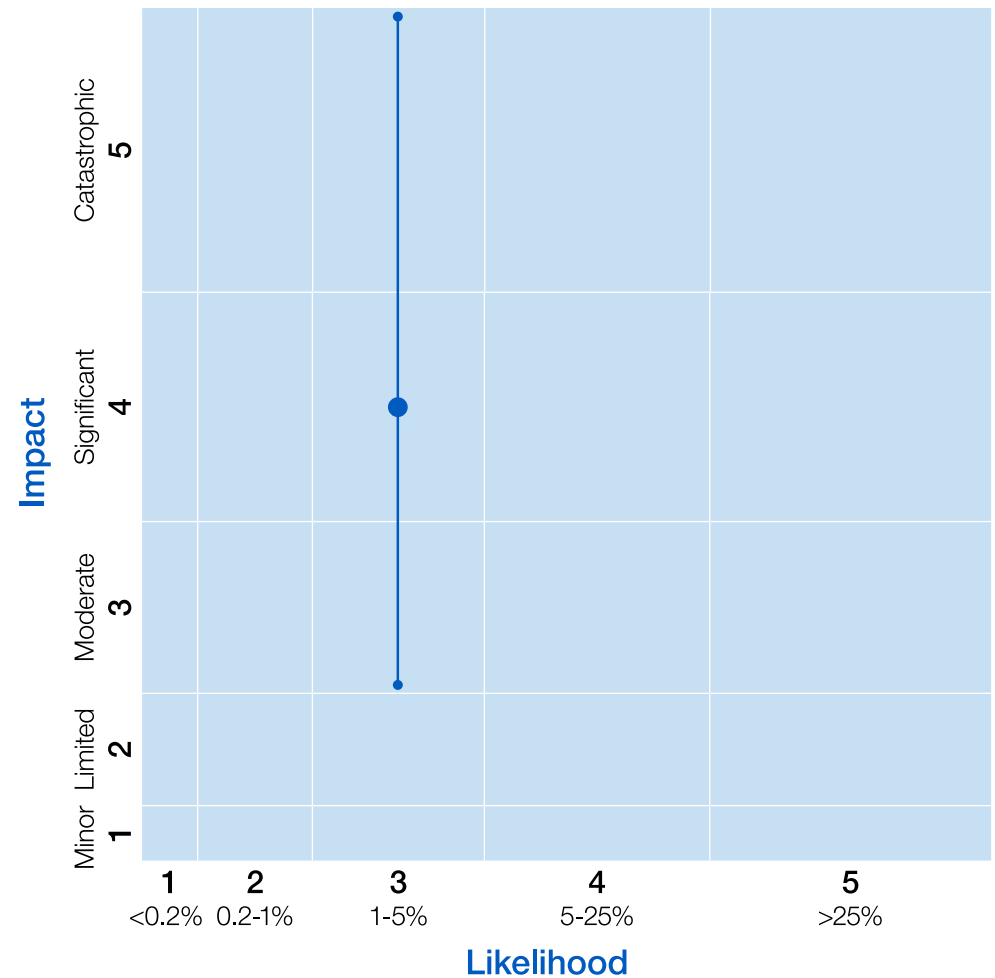
Failure of gas supply infrastructure

Large industrial users of gas would lose their gas supply first, within this process, some critical sites would be prioritised for supply to ensure essential services continue for as long as possible. Domestic customers outside of the impacted region would be prioritised for gas supply above all industrial customers (including priority customers). This is because domestic customers take significantly longer to reconnect following disconnection for safety reasons. In the region without gas, there would be casualties and fatalities from a lack of heating, access to necessary medical treatment, exacerbation of an existing condition, or limited ability to use gas-fired cookers safely. The Secretary of State for Energy Security and Net Zero would initiate the Electricity Supply Emergency Code (ESEC) as demand disconnections would continue for more than 48 hours. This would enable the National Energy System Operator (NESO) to publish rotas up to 7 days in advance, enabling households and businesses to better prepare for power outages and mitigate disruption.

Key assumptions for this scenario

The scenario assumes that impacts would be greatest during a severe winter that sees high consumer demand and low supplies from other sources.

Response capability requirements

There would need to be preparations in place to support wider recovery and the continued operation of multiple sectors. This includes functioning telecoms, emergency services and fuel distribution. Additional support could be provided via mutual aid agreements.

Recovery

Restoration of the affected gas infrastructure could take approximately 3 months, at which point rolling power cuts would no longer be required, as gas supplies to electricity power stations would resume. It would take a further week for industrial gas customers to be fully restored and weeks or months for some sites to return to service. It would take several months to restore domestic gas customers impacted by the initial loss of supply.
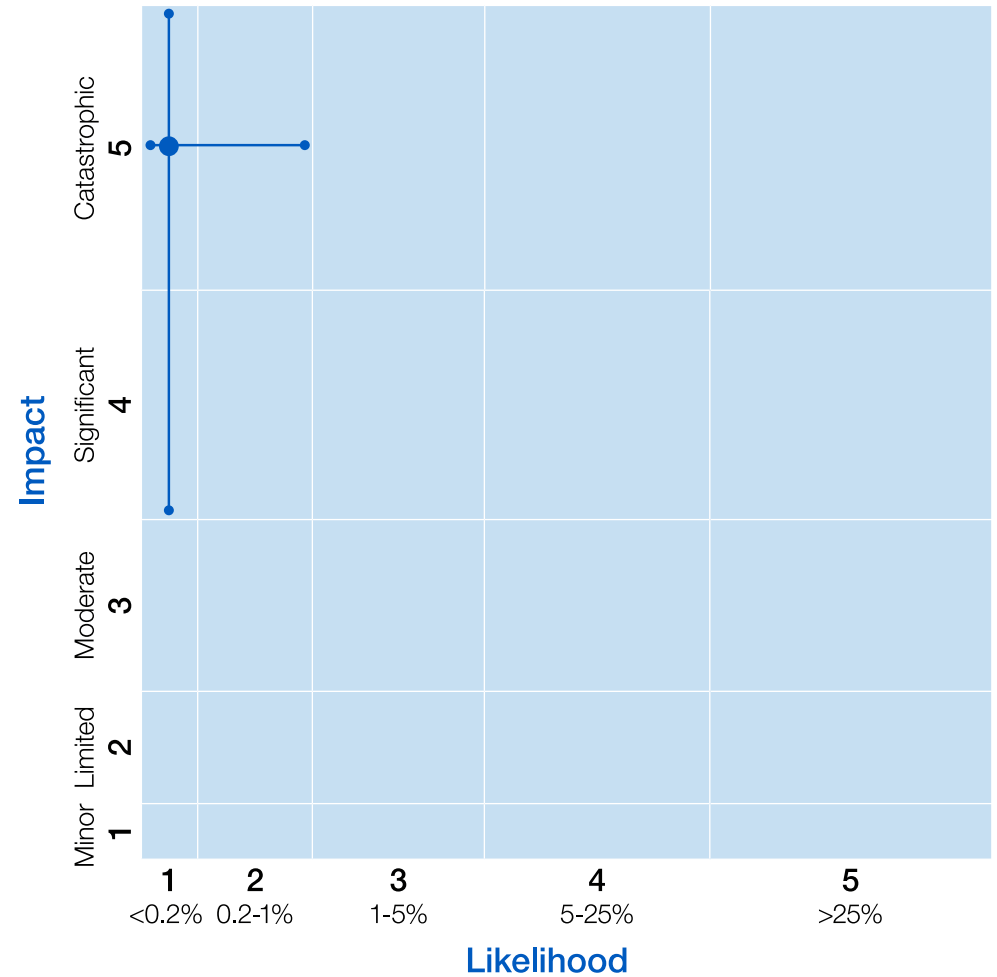
Civil nuclear accident

Civil nuclear power is of strategic importance to the UK's energy resilience and clean energy transition, and is a safe and effective mode of generating electricity. Only a small number of accidents have occurred worldwide since the first commercial nuclear power station came into operation in 1956. As required by UK regulations, there are robust safety procedures in place at all UK nuclear sites meaning an event of this type is of very low likelihood.

Scenario

In line with international good practice, the UK's domestic legislation requires planning for a range of scenarios, including those far beyond a reasonable worst-case. The scenario used for this assessment is therefore extremely unlikely. It is based on an accident occurring at a UK civil nuclear site that results in a release of radiological material that extends beyond the boundary of the site.

Onsite casualties could require decontamination, monitoring and treatment. No immediate fatal health effects would be anticipated offsite but there could be offsite casualties suffering from the effects of radiation. There could also be an increase in the risk of longer-term health impacts, such as cancers.

The resulting contamination could affect the environment and food production, and there could be disruption to domestic and international transport. The overall impacts of a release are highly dependent on weather patterns.

Civil nuclear accident

Key assumptions for this scenario

Scientific modelling has been used to determine the scenario and the countermeasures required.

Variations of this scenario

Smaller-scale scenarios could occur, which would decrease the risk to people, the environment and the economy.

Response capability requirements

There would be a large-scale, multi-agency response. A communications campaign would be needed to communicate key messages to the public. Protective actions would be promptly implemented to protect people's health, which based on the nature of the accident, could include sheltering, evacuation or the use of stable iodine. A ready stockpile of stable iodine tablets could be required as a medical countermeasure. Immediate capabilities could include radiation monitoring and decontamination services, alongside remediation services to restrict the spread of radioactive material. Humanitarian services would also be required to support those displaced, including but not limited to emergency shelter, food and water.

Recovery

Around affected parts of the UK, there could be significant and prolonged long-term health, environmental and economic impacts requiring sustained recovery.

Radiation release from overseas nuclear site

Another risk that the government is planning for is an accident at an overseas nuclear site that results in the release of radiation. Impacts on the UK homeland would most likely be felt if the accident occurred at a site in a country close to the UK as opposed to a geographically distant location. For example, the 2011 Fukushima disaster in Japan resulted in very low levels of radioactive iodine being detected. Countries near the UK have well established civil nuclear sectors, with robust safety procedures in place.

Scenario

In line with good practice the UK plans for a range of scenarios, including less likely, more severe scenarios that are beyond reasonable worst-case. This scenario is extremely unlikely. It is based on an accident occurring at an overseas nuclear site, close to the UK. This could affect the UK and its interests overseas, with overall impacts being highly dependent on weather patterns and distance from the UK.

There would likely be no acute radiation-linked immediate health effects for people in the UK although, depending on the weather patterns, there could be an increased risk of cancer over the longer term if the release occurred from an overseas site close to the UK. British nationals in the accident country would likely require consular assistance.

The resulting contamination could affect the environment and food production, and there could be disruption to domestic and international transport into Europe (including Channel shipping lanes). This could impact the import of food from the accident country and surrounding countries. The overall impacts of a release are dependent on weather patterns.
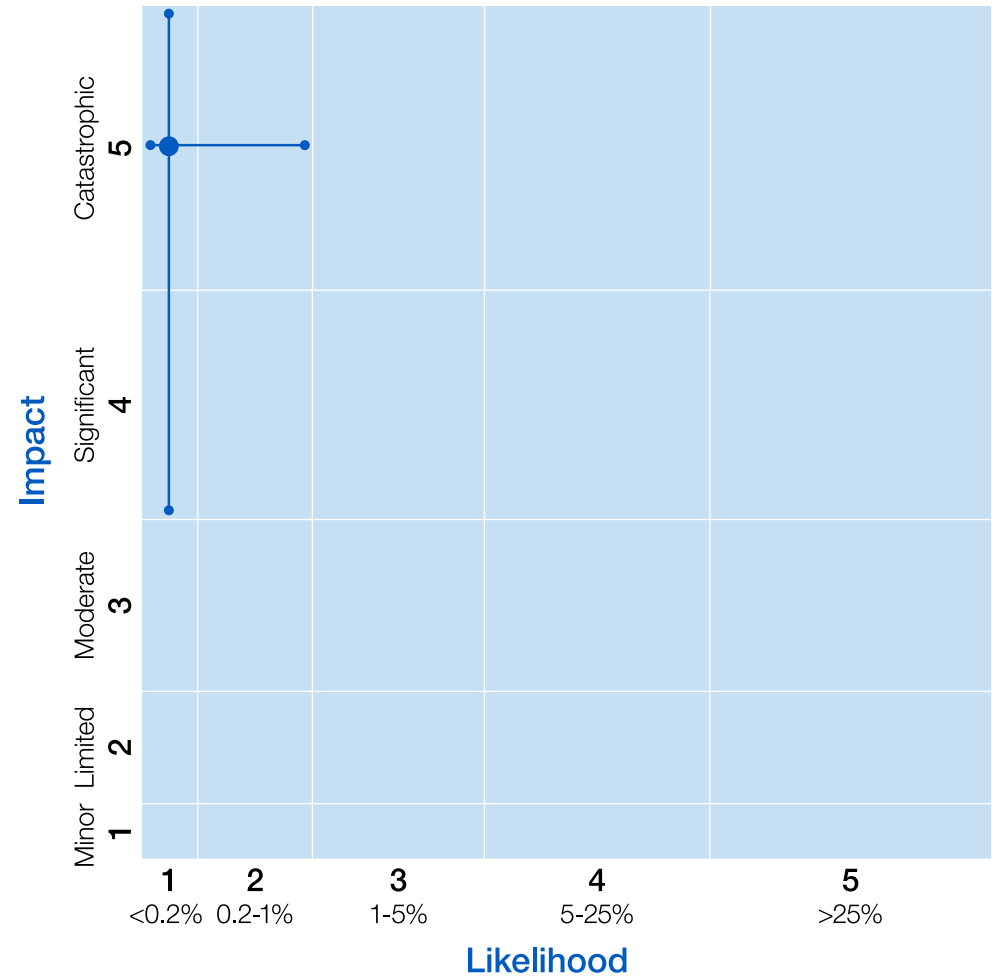
Radiation release from overseas nuclear site

Key assumptions for this scenario

Scientific modelling has been used to determine the scenario and the countermeasures required.

Variations of this scenario

Smaller-scale scenarios could occur, which would decrease the area affected and the risk to people, the environment and the economy.

Response capability requirements

There would be a large-scale, multi-agency response. A communications campaign would be needed to provide key messages to the public. Immediate capabilities would be radiation monitoring and decontamination services, alongside remediation services to restrict the spread of radioactive material.

Recovery

Around affected parts of the UK, there could be prolonged long-term health, environmental and economic impacts requiring sustained recovery.

Radiation exposure from transported, stolen or lost goods

There is a low likelihood risk that radiation could be released from goods being transported within or into the UK. When these goods are handled correctly by trained professionals, the risk of radiation release is extremely low. However, there is a risk as individuals handling transported, stolen or lost goods are unlikely to have the appropriate training. The scenario used in the reasonable worst-case scenario below has never happened in the UK.

Scenario

The reasonable worst-case scenario covers radioactive goods that could be stolen, lost or transported by a legal owner without proper regard to radiation safety regulations. The sources would be mixed with non-contaminated waste in a scrapyard, or subsequently melted in a foundry and used to produce reinforcing bars, table pedestal castings, cast valve bodies or electric motor parts. The packaging used to transport the sources could also be contaminated with radiation. The amount of radioactivity involved would be small and the item disposed of safely. However, the risk would cause moderate economic damage and knock-on impacts beyond the timeframe for decontamination. The process of dismantling the radioactive unit would expose people to radiation and could cause contamination over a wide area, potentially leading to fatalities and casualties.
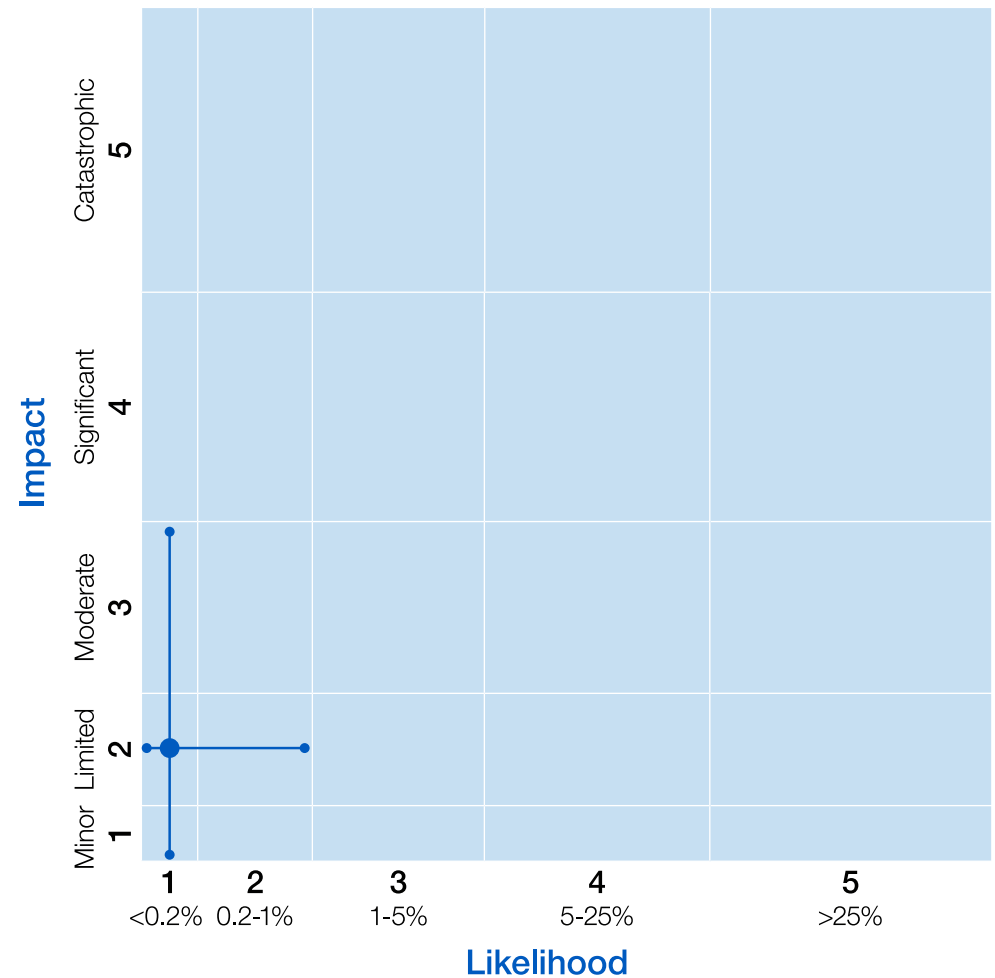
Radiation exposure from transported, stolen or lost goods   **164**

Key assumptions for this scenario

While radioactive sources could be inadvertently processed in a scrapyard or in another location and mixed with non-contaminated waste and consequently smelted and subsequently used to produce goods contaminated by radiation, this is considered unlikely given the detection systems at each stage of the process. Non-malicious targeted theft of a radioactive source is considered highly unlikely given the robust security requirements in place for radioactive sources in International Atomic Energy Agency Categories 1-4.

Variations of this scenario

Variations include a radiation source becoming breached in an urban environment. Prior to detection, exposure to the radiological component would be spread across multiple locations. Another high-impact variation could involve a radioactive contaminated metal from a scrapyard that is inadvertently melted in a foundry, resulting in radiation exposure. A lower-impact risk involves a radioactive contaminated packaging sold as scrap metal, resulting in hospital admissions. A proportion of these would exhibit clinical signs of acute radiation exposure.

Response capability requirements

Decontamination services and radioactivity scanners would be required immediately. Public communications campaigns would communicate key messages to the public. There would be a requirement for monitoring (sampling and laboratory analysis) and waste management capability would also be impacted.

Recovery

Health impacts among the affected workers (including radiation illnesses) would be expected for a number of years, with a requirement for long-term medical supervision. Decontamination of sites would take several weeks and require extensive resources (cost of clean-up and waste disposal could be substantial).
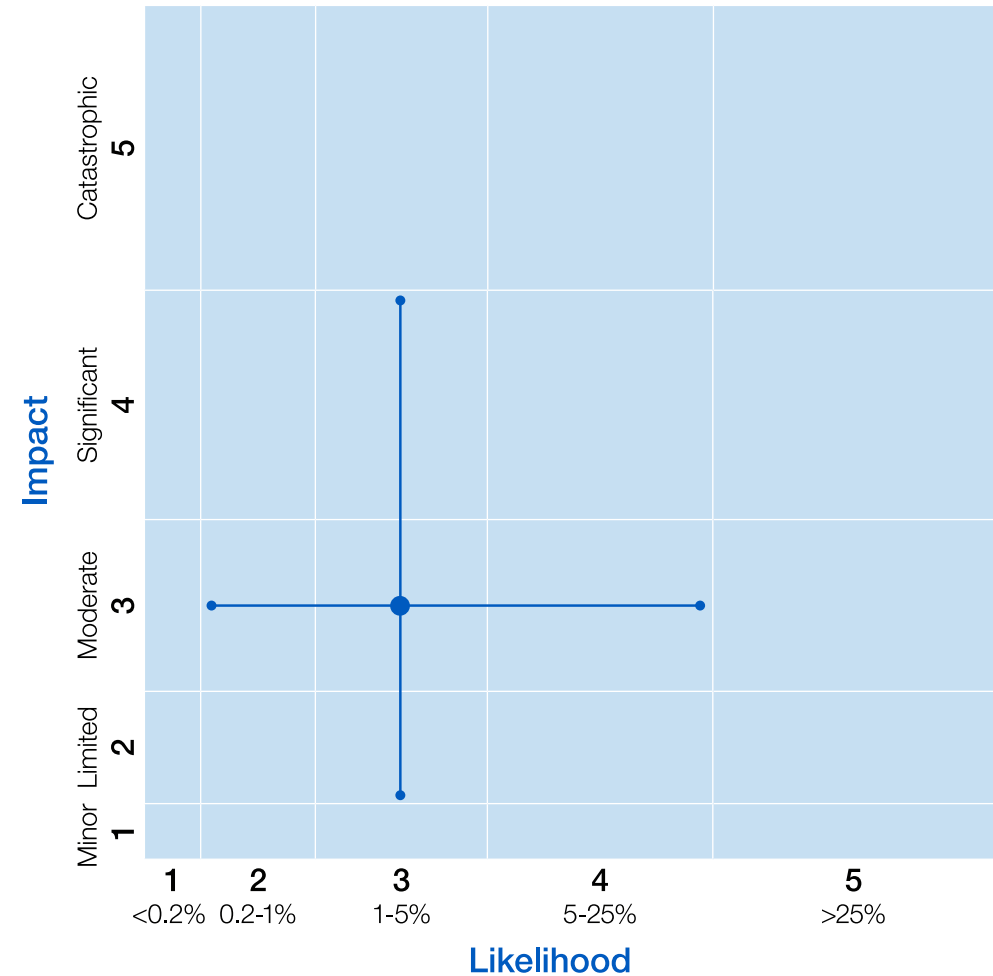
Technological failure at a systemically important retail bank

The increasing digitisation of financial services means that a technological failure of IT systems could result in customers being unable to access key account functions and important information, including online banking. The financial regulators' operational resilience policy requires finance sector organisations to ensure their critical business services are resilient to severe but plausible scenarios, including technological failures.

This supervisory framework covers financial market infrastructures (FMIs) and Other Systemically Important Institutions (O-SIIs), critical to the UK's financial stability, who must also consider their risks in relation to harm their institution may cause to the real economy and financial services sector as a whole.

Scenario

The reasonable worst-case scenario is based on a technological systems failure that renders a systemically important retail bank's critical technology inoperable, with a partial outage for 2 days thereafter. Potential immediate impacts would include customers being unable to view account balances, process payments, use online banking or withdraw cash from ATMs. Account data may also be compromised. Online and mobile customers would be locked out of their accounts, with some experiencing disruption in the weeks that follow.

Technological failure at a systemically important retail bank

Long-term disruption to consumer-facing banking would impact consumer confidence. The outage would disrupt critical government services for several hours, with longer-term impacts felt for weeks. This would impact people's ability to buy necessary goods, travel to and from work and pay for basic utilities. The most significant impact would be felt by vulnerable customers with only a single bank account. The bank would also likely face heightened fraud and operational losses.

Key assumptions for this scenario

This scenario assumes that the technical fault directly impacts the IT operations of a UK critical national infrastructure bank, and that the firm's impact tolerances (the maximum tolerable level of disruption) are surpassed.

Variations of this scenario

Technological failure of a UK critical financial market infrastructure.

Response capability requirements

Local and national plans to deal with a surge in demand for consumer facing financial services where online and mobile banking services are offline. Collective incident response capability is managed under the UK's Authorities' Response Framework (ARF).

Recovery

Depending on the severity of the technological failure, a full systems recovery could be protracted. Recovery would involve interim actions to provide customer payments and fixing the affected technological systems. Some customers could experience disruption once the technical issue has been fixed as backlogs are cleared.

Technological failure at a UK critical financial market infrastructure

Financial market infrastructures (FMIs) are the networks that enable financial transactions to take place and are a vital part of the UK economy. This means that FMI companies are tightly regulated by the Bank of England to ensure their smooth operation, with technological failures likely to have significant impacts on the UK economy. The financial regulators' operational resilience policy requires finance sector organisations to ensure their critical business services are resilient to severe but plausible scenarios, including technological failures.

This supervisory framework covers FMIs and Other Systemically Important Institutions (O-SIIs), critical to the UK's financial stability, who must also consider their risks in relation to harm their institution may cause to the real economy and financial services sector as a whole.

Scenario

This scenario is based on a technological systems failure causing an outage of a systemically important UK financial market infrastructure (FMI). This would significantly impact the processing of financial transactions. The lack of substitutability of many of these systems and their criticality to the functioning of UK financial systems means a sustained outage could threaten the UK's financial stability. Impacts would be felt across the UK economy. Given the cross-border nature of the financial system and depending on the duration of the outage, there could be significant international implications as a result, with government reputational loss and significant financial loss.
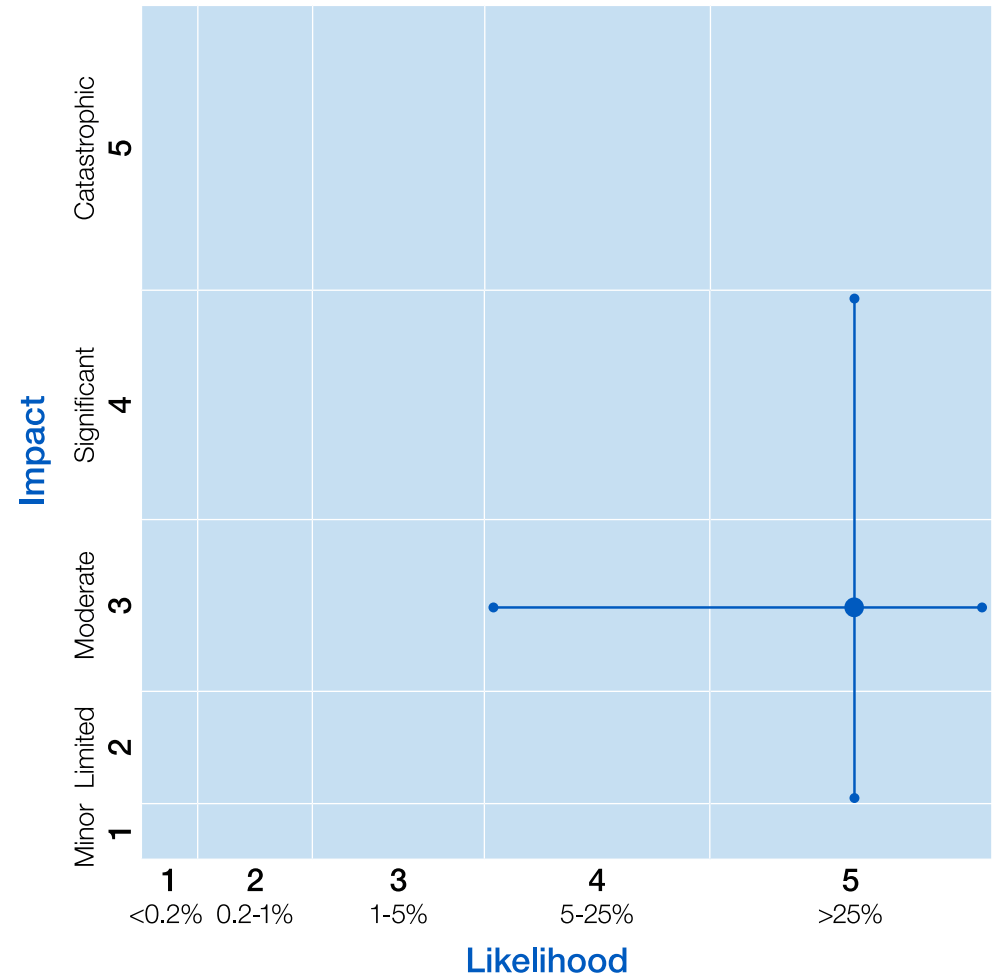
Key assumptions for this scenario

The scenario assumes that the technical fault directly impacts the IT operations of a UK critical national infrastructure FMI. The scenario assumes that the firm's impact tolerances (the maximum tolerable level of disruption) are surpassed.

Variations of this scenario

Variations involve different examples of FMIs. Additional scenarios include the technological failure of a systemically important retail bank.

Response capability requirements

Local and national plans would be needed to deal with a surge in demand for consumer-facing financial services. Collective incident response capability under the UK's Authorities' Response Framework (ARF).

Recovery

Depending on the severity of technological failure, a full systems recovery could be protracted. Recovery capabilities would centre on the particular FMI's response capability requirements. There would be a limited ability to transfer functions or use alternate channels due to the unique profile of each FMI. The recovery would also depend on having a very robust dual site running.

Accidental fire or explosion at an onshore major hazard (COMAH) site

This risk involves a Control of Major Accident Hazards (COMAH) site that produces, stores or uses significant amounts of flammable or explosive substances. There are two types (tiers) of establishment that are subject to COMAH, known as 'Upper Tier' and 'Lower Tier'. Upper Tier establishments hold greater quantities and/or more dangerous substances compared to Lower Tier establishments, meaning that additional requirements are placed on them. Operators of these sites have a legal duty to prevent accidents from occurring and to mitigate their consequences. The Health and Safety Executive develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil these responsibilities effectively.

Scenario

The reasonable worst-case scenario for this risk concerns a major fire and/or explosion occurring at an onshore COMAH site, potentially causing building damage and possible collapse close to the site. The fire would generate a visible plume of smoke that may travel to nearby areas. The accident could result in casualties and fatalities. Other impacts include short-term local transport disruption and economic impacts in the order of hundreds of millions of pounds.

Key assumptions for this scenario

The incident is accidental and occurs at a large industrial complex storing or using flammable substances. The incident produces a cloud of gas or vapour or a spill of flammable liquid, which ignites causing a fire or explosion.
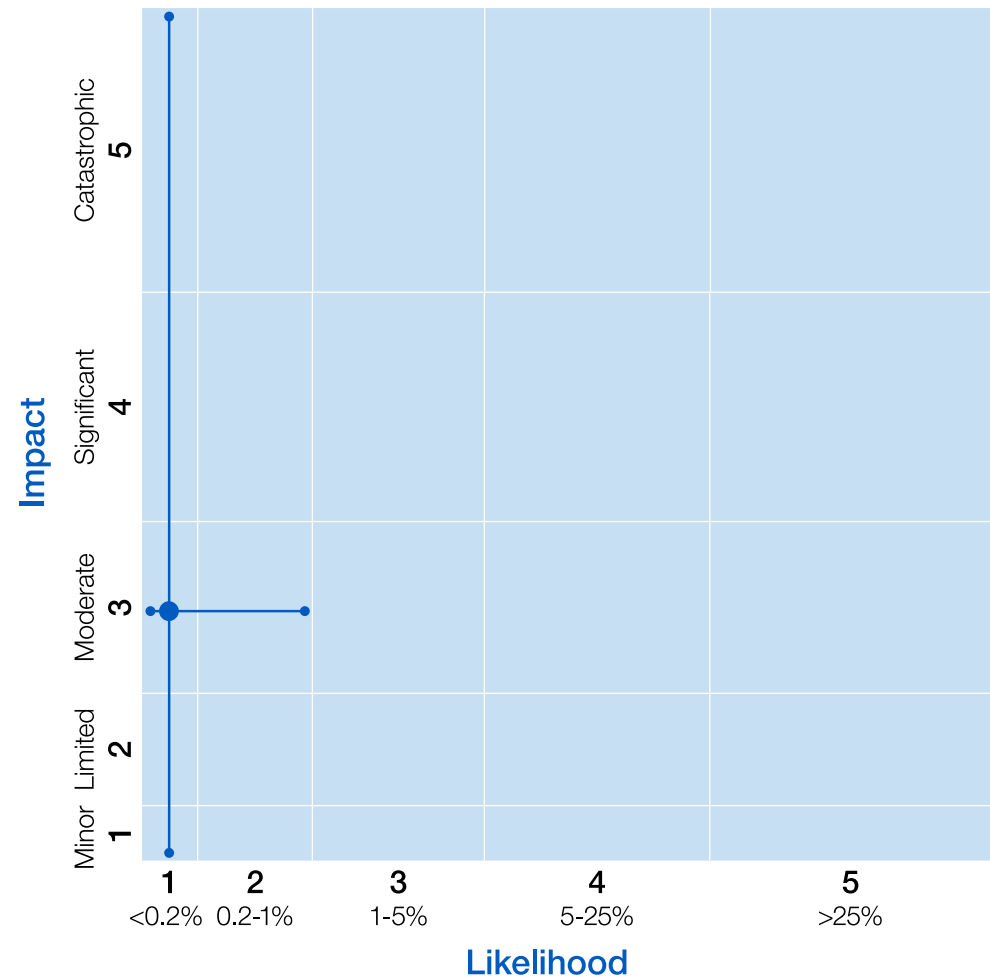
Accidental fire or explosion at an onshore major hazard (COMAH) site

Variations of this scenario

The impacts of the scenario will vary depending on the number of people working on site at the time, how far the nearest population is, the time of day, how long the event lasts, what the site is used for and volume and type of substances involved.

Response capability requirements

Capability requirements would include temporary evacuation and shelter for displaced people. There would be a need for specialist treatment, surge capacities and appropriate recovery and storage for no-notice mass fatalities and casualties. As a result of rubble and debris, the site would need to be cleaned up and possibly decontaminated and the response would involve search and rescue teams.

Recovery

The health effects arising from exposure to the effects of fire and explosion are likely to be acute but some will continue beyond 5 years. Psychological support may need to be made available to those affected. The duration of environmental contamination could be short (less than one year) or long term (more than 5 years), depending on the site location and inventory.

Accidental large toxic chemical release from an onshore major hazard (COMAH) site

This risk is concerning an incident in which a toxic gas is accidentally released from a Control of Major Accident Hazards (COMAH) site in the UK. There are two types (tiers) of establishment that are subject to COMAH Regulations, known as 'Upper Tier' and 'Lower Tier'. Upper Tier establishments hold greater quantities of dangerous substances compared to Lower Tier establishments, meaning that additional requirements are placed on them. Operators of these sites have a legal duty to prevent accidents from occurring and to mitigate their consequences. The Health and Safety Executive develops and enforces legislation, standards, codes of practice and guidance to ensure operators fulfil their responsibilities effectively.

Scenario

The reasonable worst-case scenario is based on an accidental large release of toxic chemical gas from an onshore COMAH site. The release may involve one of a number of hazardous chemicals and would not necessarily result in a fire or explosion. The site would be located near an urban area and could result in fatalities and casualties. There would also be some long-term health impacts to casualties, with some vulnerable groups disproportionately affected.

Key assumptions for this scenario

This scenario assumes that the incident is accidental and that toxic chemicals would be released as a gas at a large industrial complex or bulk chemical storage site near an urban area.
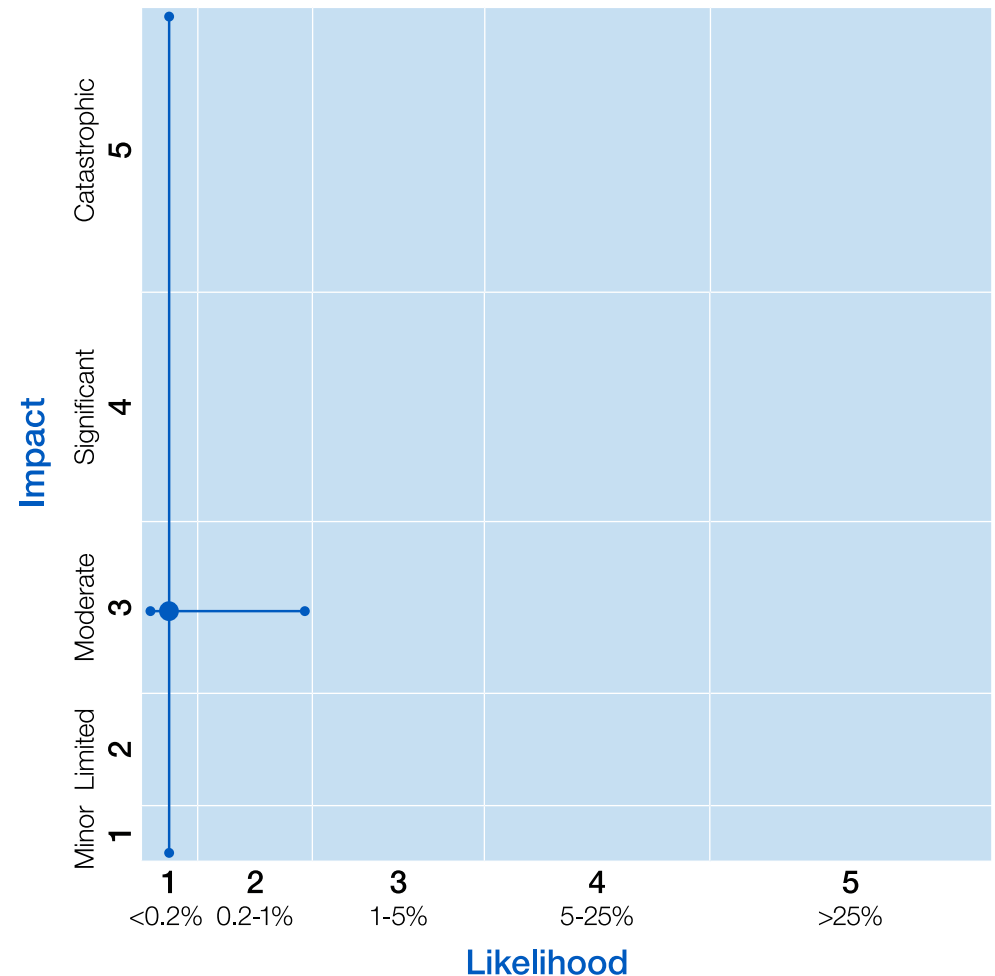
Accidental large toxic chemical release from an onshore major hazard (COMAH) site

Variations of this scenario

The impacts of this event would depend on several factors, including the location of the site, the type and volume of gas released, the weather conditions, time of day and individual human responses to exposure. Other variations involve a larger toxic chemical release, which would generate similar impacts but on a larger scale, or a lower scale release of toxic gas with smaller impacts.

Response capability requirements

Site-specific risk assessments are carried out by the site operator, as this is a legal requirement under the COMAH regulations. These assessments inform specific capability requirements locally. Responders will require personal protective equipment (PPE) for recovery of no-notice mass fatalities and to treat no-notice mass casualties. Some temporary evacuation and shelter arrangements may also be required, as well as remediation and potential decontamination of the local environment.

Recovery

The health effects arising from exposure to the toxic gas are likely to be acute, but some will continue beyond 5 years where chemicals pose longer-term hazards to health. Psychological support may need to be made available to those affected.

Accidental fire or explosion on an offshore oil or gas installation

This risk concerns an offshore oil or gas installation. These installations store and process significant volumes of highly flammable hydrocarbon mixtures such as crude oil and natural gas, which could potentially result in a large fire or explosion if released accidently. Operators of these installations have a legal duty to prevent accidents and to mitigate their consequences. The Health and Safety Executive monitors hydrocarbon releases to identify trends and inspects all installations on a regular basis.

Scenario

The reasonable worst-case scenario for this risk is a fire or explosion occurring on an offshore oil or gas installation. The incident would be local to the site resulting in casualties and fatalities. There could also be environmental damage. The incident may cause supply issues depending on the type of installation, but it is likely there would be sufficient resilience in the supply chain.

Key assumptions for this scenario

It is assumed that the incident is accidental. The main platform on the installation would be significantly damaged but avoid total collapse. Drilling and key machinery would be closed down quickly, with impacts extending to the people on the platform at the time of the incident.
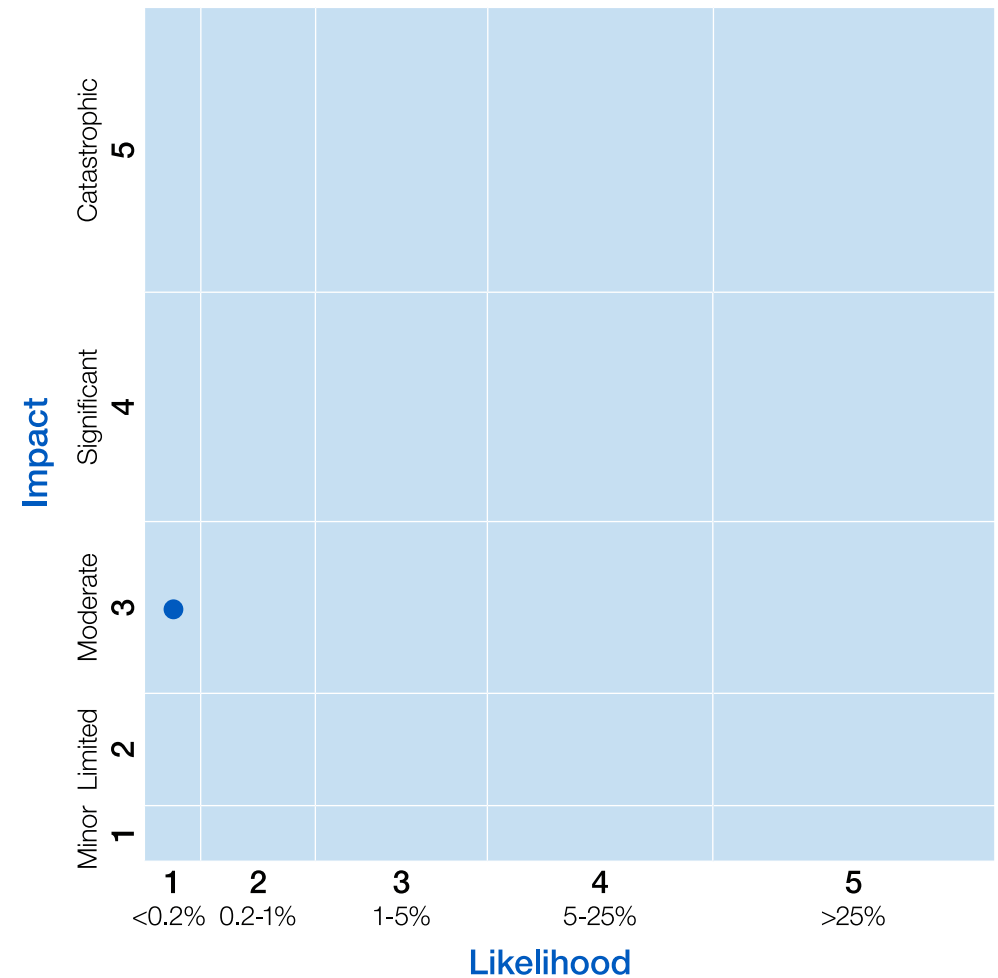
Risk matrix — Impact (y-axis): 1 Minor/Limited, 2 Limited, 3 Moderate, 4 Significant, 5 Catastrophic. Likelihood (x-axis): 1 <0.2%, 2 0.2-1%, 3 1-5%, 4 5-25%, 5 >25%. Plotted point at Likelihood 1, Impact 3.

Accidental fire or explosion on an offshore oil or gas installation

Variations of this scenario

The impacts of the scenario will vary depending on the size of the fire or explosion, its effect on the integrity of the installation and the size of any resulting substance release. Although the degree of emergency response may differ, the capabilities required of responders are unlikely to change.

Response capability requirements

The capabilities required to manage and respond to an incident would largely be the responsibility of the installation operator. Their onshore command team would need to cooperate with local police, coastguard and the NHS to rescue and evacuate offshore personnel. Firefighting would be carried out by a trained firefighting team with equipment available on the platforms where necessary to assist safe evacuation. Evacuation of the platform and the speed with which this can be accomplished would depend upon weather conditions. The ability to recover, store and identify fatalities and to treat casualties would be required, and operators would need to deliver environmental emergency response plans.

Recovery

There may be some longer-term health impacts for some casualties arising from the incident. Psychological support may need to be made available to those affected. Environmental damage and the associated clean-up operations could be long lasting. Harsh marine weather conditions are more likely to facilitate the break-up of any potential contamination; however, this would also increase the costs of clean-up due to the need to hire suitable equipment and specially trained personnel. Work to decommission, make safe and dismantle a rig damaged beyond repair could take up to 3 years.

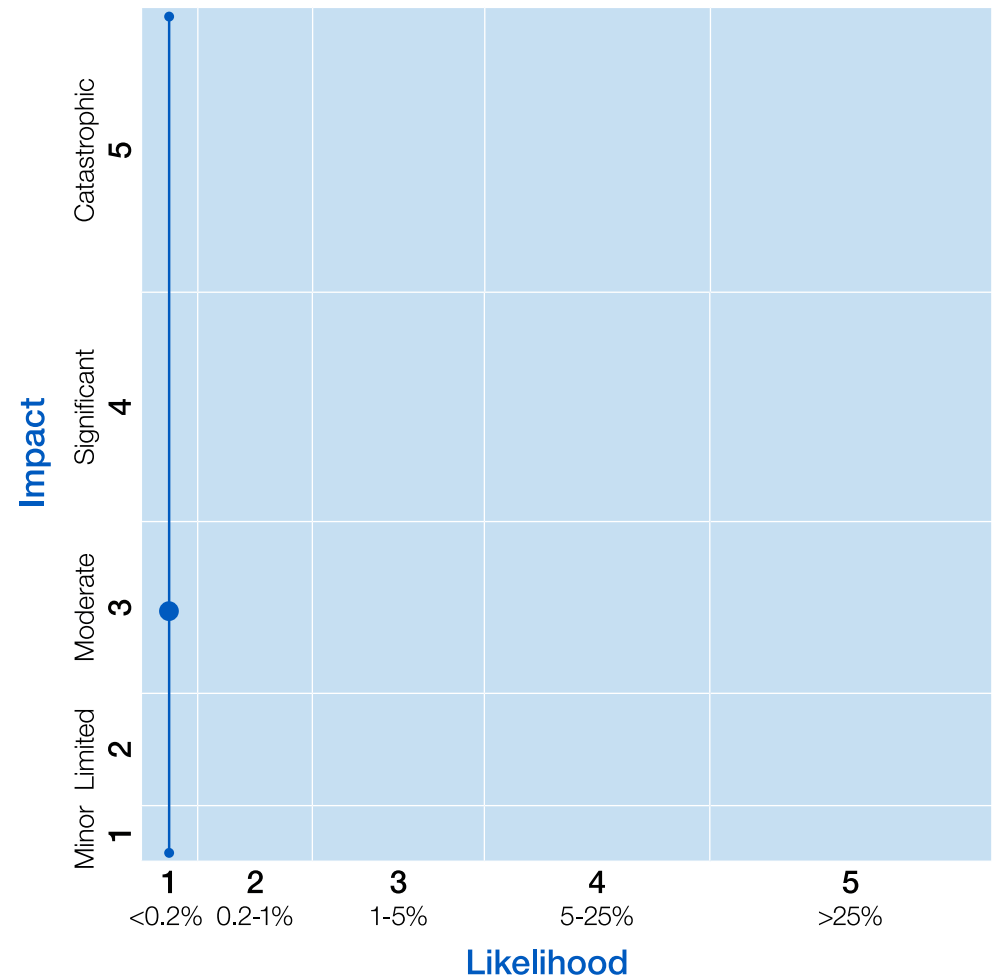# Accidental fire or explosion at an onshore fuel pipeline

This risk involves an onshore pipeline that transports petroleum and other fuels. Although pipelines are a safe and cost-effective mode of fuel transportation, accidental damage and loss of containment of flammable fuel could potentially lead to fire and explosion. Operators of these pipelines have a legal duty to prevent accidents and to mitigate their consequences. The Health and Safety Executive develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil their responsibilities effectively.

Scenario

The reasonable worst-case scenario for this risk concerns an accidental fire or explosion occurring at an onshore fuel pipeline situated close to a populated area. The ignition of flammable fuel under high pressure would result in a loud explosion, which could cause a crater, destruction of buildings, fatalities and casualties, and evacuation from homes up to 1km around the site. Depending on the fuel involved, there could be long-term environmental contamination. Additionally, up to 1,000 people would require temporary shelter or accommodation, with a number of these potentially requiring longer-term temporary accommodation if their property is seriously damaged.

Key assumptions for this scenario

It is assumed that the incident is accidental and happens close to a populated area. The pipeline can quickly be isolated following the initial fire or explosion, so that demands on emergency responders are substantial but short-lived.

Impact (y-axis): 1 Minor / Limited, 2 Limited, 3 Moderate, 4 Significant, 5 Catastrophic

Likelihood (x-axis): 1 <0.2%, 2 0.2-1%, 3 1-5%, 4 5-25%, 5 >25%

Accidental fire or explosion at an onshore fuel pipeline

Variations of this scenario

The extent and severity of impacts would depend on a variety of factors including pipeline contents, time of day/night, the time taken to isolate the pipeline, and its location. The release of certain fuels from a pipeline would pose a greater hazard to the human population compared to others, depending on their flammability and combustibility.

Response capability requirements

The Pipelines Safety Regulations 1996 do not require local authorities to prepare emergency plans with respect to fuel pipelines, but they are required to plan for emergencies that could happen in their area under other legislation. Pipeline operators are also required to establish emergency procedures for such pipelines. There would be a need for specialist treatment, surge capacities and appropriate recovery and storage for no-notice mass fatalities and casualties. Responders may require personal protective equipment (PPE). Some temporary evacuation and shelter arrangements may be required for displaced people, along with search and rescue teams to locate trapped people. Site clearance plans would be required for the removal of rubble and debris at a local level, and for decontamination of the environment.

Recovery

The health effects arising from exposure to the effects of fire and explosion are likely to be acute but some will continue beyond 5 years. Psychological support may need to be made available to those affected. Making the area safe and treating environmental damage may take up to 5 years.

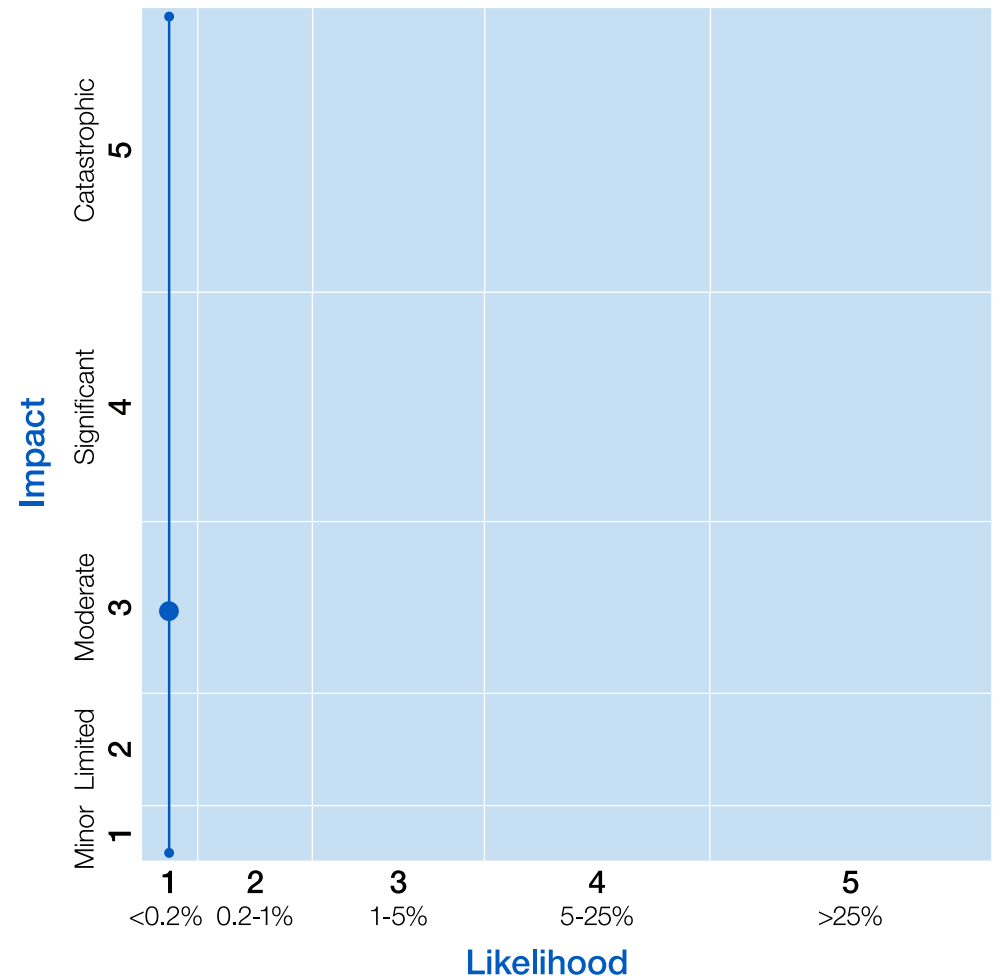# Accidental fire or explosion at an onshore major accident hazard pipeline

This risk concerns an onshore major accident hazard pipeline (MAHP). These pipelines transport flammable and toxic materials with the potential to cause major accidents if accidently released. Operators of these pipelines have a legal duty to prevent accidents and to mitigate their consequences. The Health and Safety Executive develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil their responsibilities effectively.

Scenario

The reasonable worst-case scenario is based on an accidental fire or explosion occurring at a MAHP situated close to an urban area. The ignition of flammable gas or liquids under high pressure would result in a loud explosion, which could cause a crater, building damage and require evacuation from homes. The fire may continue to burn until the pipeline is isolated. The fire or explosion would result in casualties and fatalities. Some specialist medical services such as intensive care or burns treatment may be required.

Key assumptions for this scenario

It is assumed that the incident is accidental and would involve a loss of containment, producing a cloud of gas or vapour as well as the results of a fire or explosion. This is likely to result in substantial short-term demands on emergency responders, however this should not continue over an extended period of time as pipelines can be isolated.

Accidental fire or explosion at an onshore major accident hazard pipeline

Variations of this scenario

The range and severity of anticipated impacts could be affected by the location of a pipeline, its contents, design, pressure and construction, the weather and the time of day/night.

Response capability requirements

The Pipelines Safety Regulations 1996 require both a local authority and the pipeline operator to prepare emergency plans for MAHP. There would be a need for specialist treatment, surge capacities and appropriate recovery and storage for no-notice mass fatalities and casualties. Temporary evacuation and shelter for displaced people, site clearance plans and infrastructure repair may be required.

Recovery

The main health effects of exposure will be experienced in the initial incident. There may be long lasting effects for people with continued respiratory issues, but long-latency ill health effects are unlikely. Psychological support may need to be made available to those affected. If the incident involves a high-pressure gas pipeline, there may be some local disruption to supply while repairs take place.

Accidental work-related (laboratory) release of a hazardous pathogen

This risk involves the accidental release of a hazardous pathogen from a laboratory in the UK. Operators of these sites must meet strict containment and safety requirements to work with these types of pathogens and develop emergency procedures to mitigate this risk. The UK has a well established regulatory system to ensure that operators fulfil these responsibilities effectively.

Scenario

The reasonable worst-case scenario is based on the accidental release of an infectious influenza-type pathogen from a UK laboratory. It is assumed that the pathogen would cause an infection that takes several days to emerge and spreads via close contact. This could result in fatalities and casualties requiring hospital treatment, along with cases that can be resolved without the need for hospital admission. The incident could last for several weeks until all contacts are traced and treated.

Key assumptions for this scenario

It is assumed that the outbreak would be identified and contained quickly, without spreading geographically. This would result in a predominantly local outbreak, rather than progressing into an epidemic. The pathogen would be quickly identifiable due to strict regulatory requirements on working with pathogens of this nature. Antiviral drugs would be effective against the virus and made available immediately to restrict further transmission. Human welfare impacts are, however, difficult to estimate with confidence.
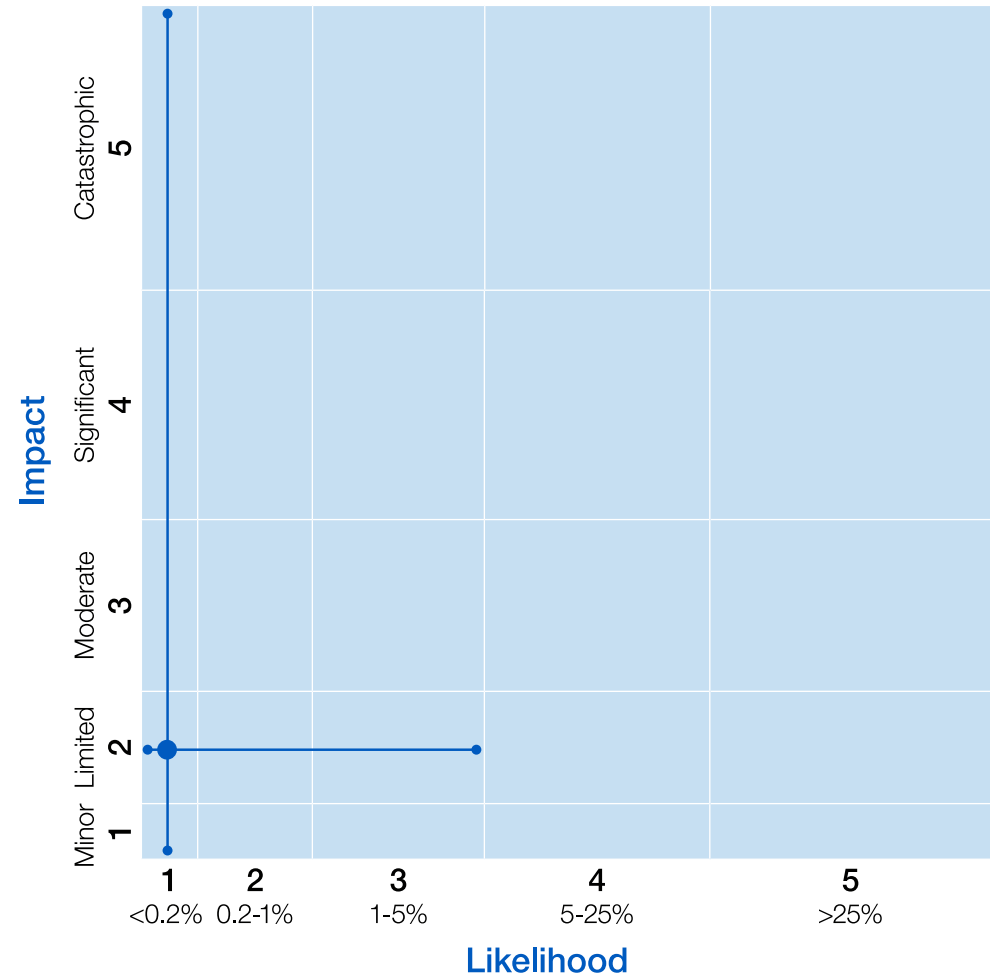
Accidental work-related (laboratory) release of a hazardous pathogen   180

Variations of this scenario

The speed of spread within the community will depend very much upon the transmissibility of the virus, the speed with which the outbreak is identified and appropriate mitigation measures enacted, including the efficacy and availability of antivirals. There are also unquantifiable variabilities in terms of individual human immune response. A more likely scenario is that a laboratory worker who is accidentally exposed to a virus during work activity would report this, enabling immediate introduction of containment measures. The worker would be referred for medical treatment and make a full recovery without the onward spread of the virus.

Response capability requirements

There could be increased demand and disruption to local hospitals. Contact tracing would be required so that all persons in contact with the virus could be identified and treated. The laboratory facilities may require full decontamination and homes of confirmed cases may also need to be deep cleaned.

Recovery

Recovery will take as long as the process to identify, isolate and provide treatment for infected individuals. Longer-term complications include the risk of developing pneumonia (viral or bacterial) some time after the initial illness with some vulnerable groups being at increased risk.

181

Reservoir/dam collapse

The collapse or breach of a reservoir or dam can be sudden and result in the uncontrolled release of fast-flowing water into a populated area. Potential causes of this may include climate-related land instability, internal erosion or an earthquake. There have been no catastrophic failures of dams in the UK since 1925. However, the incident at the Toddbrook Reservoir in 2019 highlights the significance of this risk and the need to integrate effective preventative measures. This has led to better flood mapping and flood management plans to improve preparation by local resilience forums.

Scenario

The reasonable worst-case scenario is based on a sudden collapse of a reservoir without warning. This would result in flooding, with a substantial quantity of water moving at high speed. There would be casualties, fatalities and significant mental health impacts. Utilities (water, energy, communications) to nearby homes and businesses would be lost, with significant economic impacts resulting from property damage. Recovery operations would be hazardous among collapsed infrastructure and debris.

Key assumptions for this scenario

That the dam collapse occurs with little or no warning and with no time to evacuate local properties. It is assumed that the impact on essential services and communities would be significant and require long recovery times.
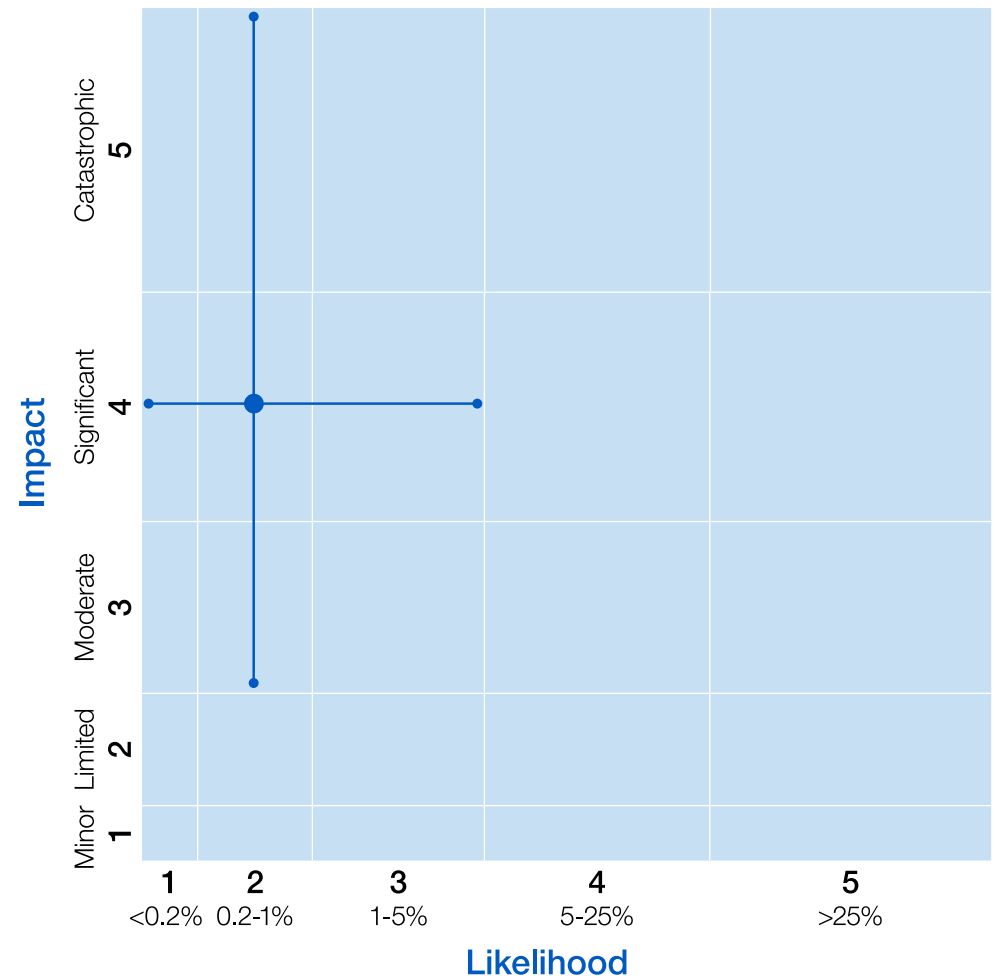
Reservoir/dam collapse

Variations of this scenario

Variations to the risk include the amount of warning time prior to the dam collapse, the size and location of the reservoir and a deliberate incident.

Response capability requirements

Since 2020, Department for Environment, Food and Rural Affairs has made it a legal requirement for all owners of large raised reservoirs to have on-site emergency flood plans. Reservoir owners, local authorities and local resilience forums (LRFs) have emergency plans and produce locally specific off-site flood plans from reservoir flood maps. The Environment Agency leads operational preparedness and response to flood impacts and during local-level operation responses and would work as part of a multi-agency team, coordinated through the LRF drawing on resources including the National Flood Asset Register, which has over 100 specialist flood rescue teams on standby to be deployed across the country. The joint Department for Environment, Food and Rural Affairs/ Cabinet Office National Flood Response Centre would coordinate the national UK response.

Recovery

There would be major economic, environmental, infrastructure and humanitarian implications. Key aspects of immediate recovery would involve searching for missing people buried by rubble, debris and sediment, evacuation and shelter of populations, temporary accommodation and clean-up of contaminated urban and agricultural land and environmental damage. There would also need to be long-term repairs to damaged infrastructure (motorways and energy infrastructure) and buildings.

Water infrastructure failure or loss of drinking water

The failure of one or more water treatment works in one region would result in the loss of key public water supply and wastewater services. The water sector has established contingency plans to mitigate a range of water supply incidents. This includes mutual aid capability across the water companies and the provision of alternative water supply, which would prioritise the most vulnerable communities.
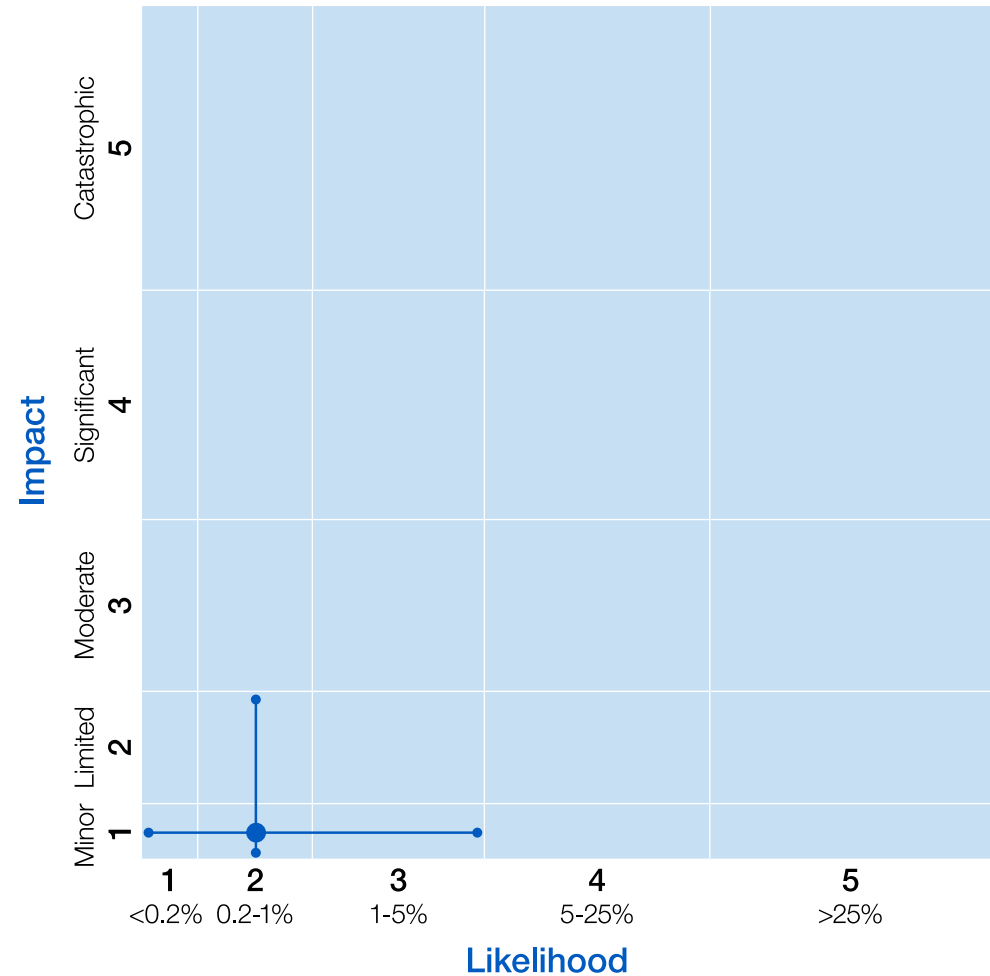
Scenario

The reasonable worst-case scenario would involve the sudden loss of piped water supply, or the degradation of the piped supply such that it was unfit for human consumption even after boiling. The loss of water would have knock-on consequences to the functioning of essential services such as schools, hospitals and prisons until alternative water supplies are provided or supply is restored.

Key assumptions for this scenario

It is assumed this would be a regional event with loss of drinking water output from one or more water treatment works and there would be limited capability in the water network to reroute supplies from other treatment works.

Variations of this scenario

There are different scenarios that could result in the loss of water supply, including burst water pipes or extreme weather incidents, however the capabilities required to minimise the impacts would remain broadly the same.

Response capability requirements

Water companies in England are required to plan for disruptive scenarios and would seek to use a number of mitigations including rezoning of their network, tankering water from alternative treatment sites, the use of mutual aid from other water companies and the provision of an alternative water supply to affected consumers as soon as possible, but within 24 hours. Alternative water would be prioritised to vulnerable consumers and sites with larger numbers of vulnerable individuals (such as prisons and care homes). Water is a devolved matter and Wales, Northern Ireland and Scotland have equivalent requirements in place.

Water companies would support the local response, which would be coordinated by the local resilience forum and the Department for Environment, Food and Rural Affairs should a national response be required.

Recovery

Piped supply would be restored as soon as possible but would be dependent on the extent of the infrastructure damage. Consumers are likely to be gradually brought back on to supply in stages as their area is reconnected. Throughout this time, alternative supplies via bowsers and bottled water stations would be maintained.

Food supply contamination

The contamination of food products with pathogens such as Norovirus, Salmonella, Listeria or Escherichia Coli (E.coli) represents a significant threat to public health. Contamination may result from cross-contamination, poor hygiene, inappropriate storage or contamination with animal waste. The Food Standards Agency (FSA) estimates that food borne pathogens are responsible for 2.4 million cases of disease in the UK each year, at a cost of £9.1 billion. The FSA prioritises keeping the level of foodborne disease low through inspecting, auditing, and assuring businesses in England, Wales and Northern Ireland producing meat, wine and dairy, and through surveillance and preventative programmes.

Scenario

The reasonable worst-case scenario is based on an incident involving a pathogen in the food chain resulting in illness, hospitalisation and possible fatalities in a moderate to large number of people. There could be direct consumer health effects, however the public health impact of food incidents can vary widely. Additionally, the impacts of infection could be more severe in vulnerable groups such as young children, older adults and the immunocompromised. There could be food production/marketing implications, depending on the scale and sector affected (for example major shellfisheries, dairy, livestock production areas). Consumer confidence might also be affected, leading to lost markets and, where staple products are affected, adaptive purchasing behaviours.
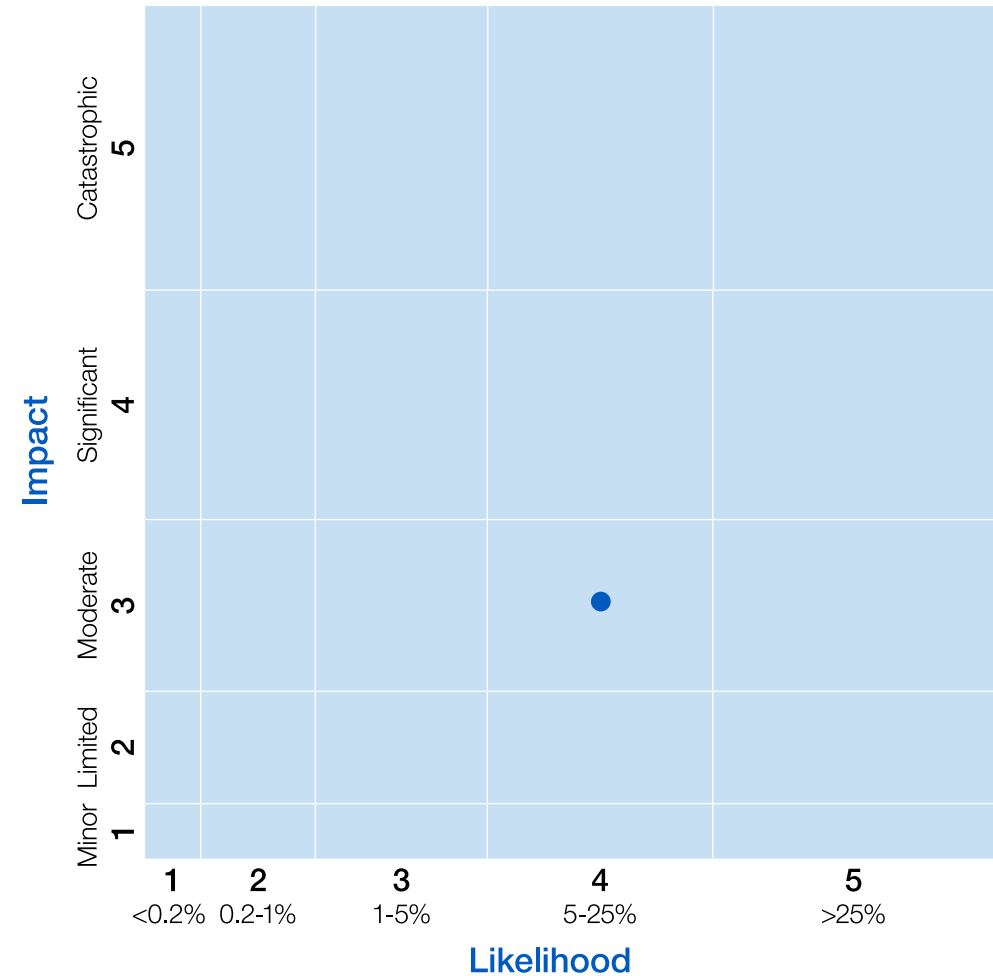
Agenda (a) / CFI(a) - National_Risk_Register_2025.pdf

Back to Agenda

Chapter 4

Accidents and systems failures

Food supply contamination

186

Key assumptions for this scenario

It is assumed for the purposes of this reasonable worst-case scenario that the type and source of contamination would not be identified immediately, and the traceability of the contaminated product would be complex and time consuming. The type of food in this scenario is a widely consumed product or an ingredient in a range of different products.

Variations of this scenario

This type of pathogen could be present in other products at different severities. A different pathogen may also be present in similar products.

Response capability requirements

Response capabilities to effectively manage such a scenario would include close liaison between the FSA and public health agencies, possible decontamination services to clear up the site of the incident and mitigation of the risk of widespread loss of consumer confidence in food.

Recovery

Events such as these can potentially cause chronic health effects and demands on health care for a prolonged period following the incident. Psychological support will need to be made available to affected individuals.

Major fire

This risk concerns a major fire occurring in the UK. Major fires can start for a variety of reasons, including accidents (for example electrical faults), human activity that combines ignition sources and fuel, malicious activity (for example arson), infrastructure incidents (for example sparks from electricity lines or rail transport) and natural phenomena (for example lightning).

Scenario

The reasonable worst-case scenario is based on major fire, for example in a high-rise residential building, care home, assisted living complex or a hospital, that results in a significant loss of life or injury. There would be significant damage to the building/premises structure, with disruption to local transport services for up to a week. Disruption to essential services would also be expected, with significant pressure on local housing and accommodation due to rehousing requirements of residents.

Variations

A fire could occur in a setting where more vulnerable people live. Within this type of accommodation, there may be residents who cannot respond to an alarm and/or may be less able to self-evacuate, meaning that the impact of the fire could be more severe.

Major fire
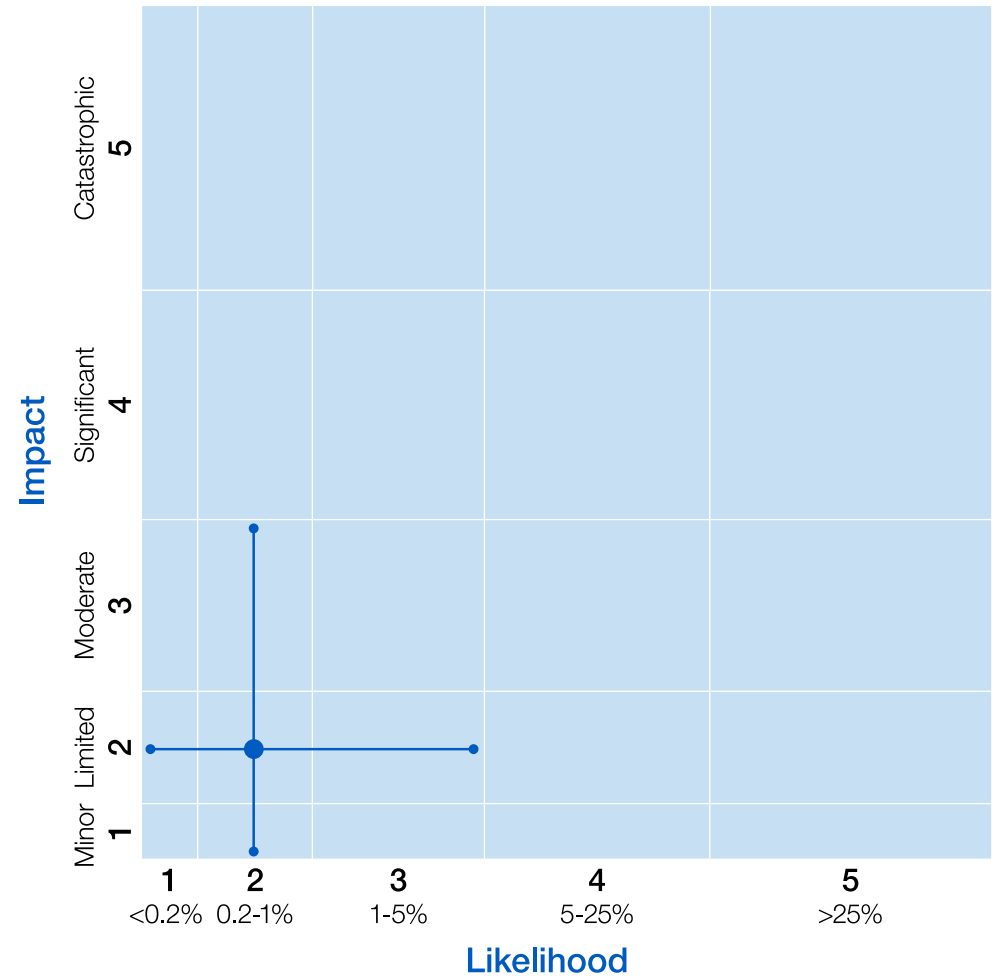
Response capability requirement

Fire and rescue services would lead on the response, including putting out the fire as well as the emergency evacuation and rescue of residents. This would include utilisation of national capabilities, for example high volume pumps and urban search and rescue. Evacuation and temporary shelter would be needed for residents. Treatment and mental health services would be required for psychological casualties. There would also be a requirement for rubble and debris clearance of the site to make it safe.

Recovery

It may take several years to rebuild, with residents residing in temporary accommodation for an extended period. There would be long-lasting impacts to both physical and mental health.

Natural and environmental hazards

Wildfire

A wildfire is an uncontrolled fire that burns vegetation, such as grass, heather, woodland, crops and scrubland.

Climate change is likely to lead to changes in the weather patterns that affect the UK, with longer drier summers anticipated. This could lead to drier vegetation and more frequent, larger wildfires. Fire and Rescue Authorities (FRAs) are required to plan for the foreseeable risks in their area, such as wildfires. Through their Integrated Risk Management Plan (IRMP). Based on their IRMPs, FRAs determine how best to respond to identified risks. This includes local decisions on the procurement of appropriate equipment to meet these risks and help deliver for their local communities.

The Home Office is working with partners across government and the National Fire Chiefs Council (NFCC) to understand the changing risk and to improve prevention of and response to wildfires, in addition to publishing a National Framework document that outlines the roles and responsibilities of various stakeholders in managing wildfire in England. The Home Office also takes an active role in communicating wildfire prevention messages through its Fire Kills campaign. These provide outdoor fire safety messages to communication and community safety teams within Fire and Rescue Services to support local delivery of fire prevention.
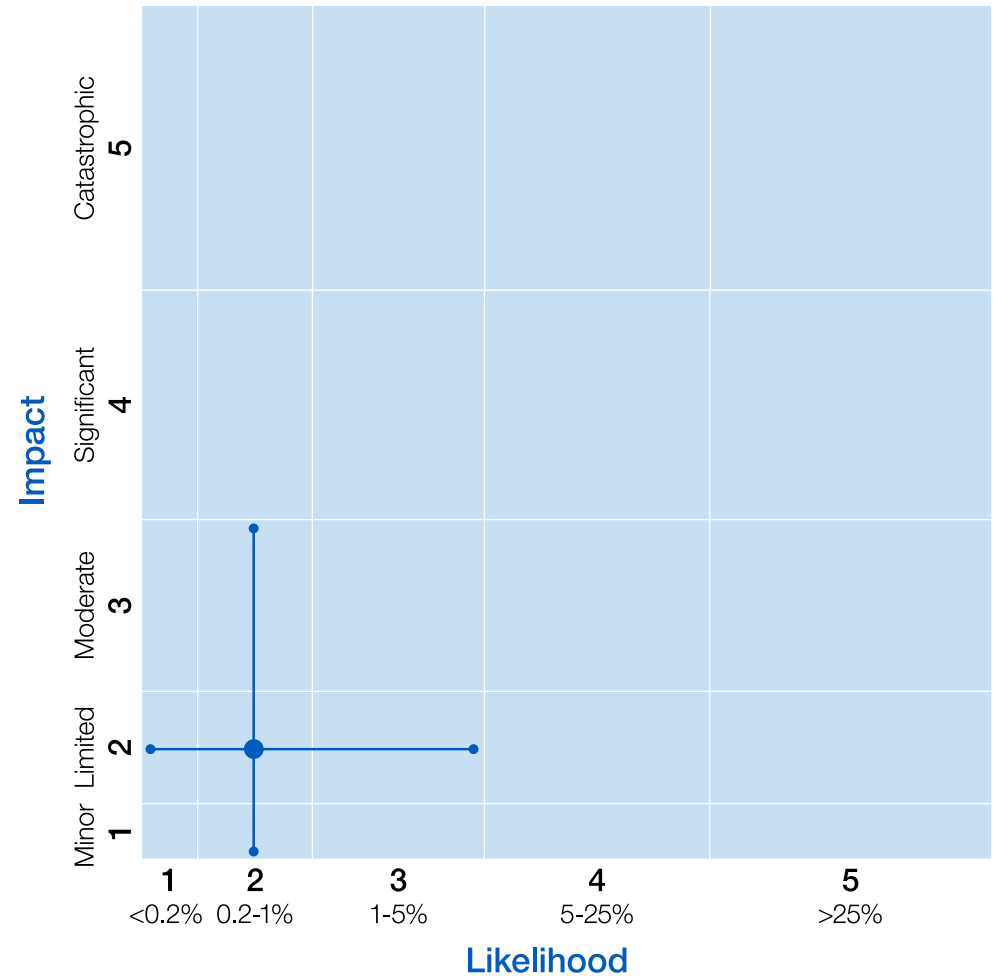
Scenario

The reasonable worst-case scenario is based on a sustained and widespread extreme wildfire requiring protracted multi-agency attendance over 4 to 7 days, with a significant impact on responder resilience and business as usual activities. Evacuations would be necessary, with a high risk of casualties and/or adverse health impacts. The wildfire would cause significant disruption or damage to critical infrastructure, transport networks, utilities and the environment.

Key assumptions for this scenario

Wildfires typically occur between February and October. There are differences in nature, scale and timing of the risk across the UK. Responsibility for fire and rescue services is devolved.

Variations of this scenario

Multiple wildfires could take place at the same time as a result of a prolonged period of heat and dry spells. This would impact multiple Fire and Rescue Services (FRS) which would impact mutual aid support.

Response capability requirements

Fire and Rescue services would lead on the response; putting out the fire and emergency evacuation and rescue of residents. This would include utilisation of national capabilities, for example high-volume pumps for water, and urban search and rescue assets to help move equipment. Mutual aid from unaffected Fire and Rescue Services would be requested.

Recovery

Recovery would be dependent on the location of fire and the vegetation/soil types impacted. Vegetation can take years to recover, with a sustained impact on local wildlife. If the location of the fire features peat in the soil there would be additional longer-term environmental implications due to the release of carbon from the burning.

Volcanic eruption

There are a number of volcanoes across Europe that could affect the UK, such as Santorini in the Aegean Sea and Vesuvius in Italy. However, volcanoes in Iceland (such as Bárðarbunga and Eyjafjallajökull) are of most concern because they are close to the UK, and could have impacts on a high volume of air traffic across Europe.

Scenario

The reasonable worst-case scenario is based on an ash-rich volcanic eruption into UK airspace that results in sporadic and temporary severe disruption to flights in parts of UK or international airspace. Severe disruption could occur for up to 15 days (potentially non-consecutive), with moderate disruption over an additional 10 days during a 3-month eruption period. The duration of severe disruption would be heavily influenced by eruption characteristics, meteorological conditions, concentration of ash and level of aviation activity. Disruption could include severe flight delays, diversions and cancellations, impacting passenger and freight flow. The greatest risk to the UK from volcanic eruptions comes from Iceland. British nationals may be stranded abroad, while foreign nationals in the UK (including those diverted to the UK) may find themselves being forced to delay their return home.
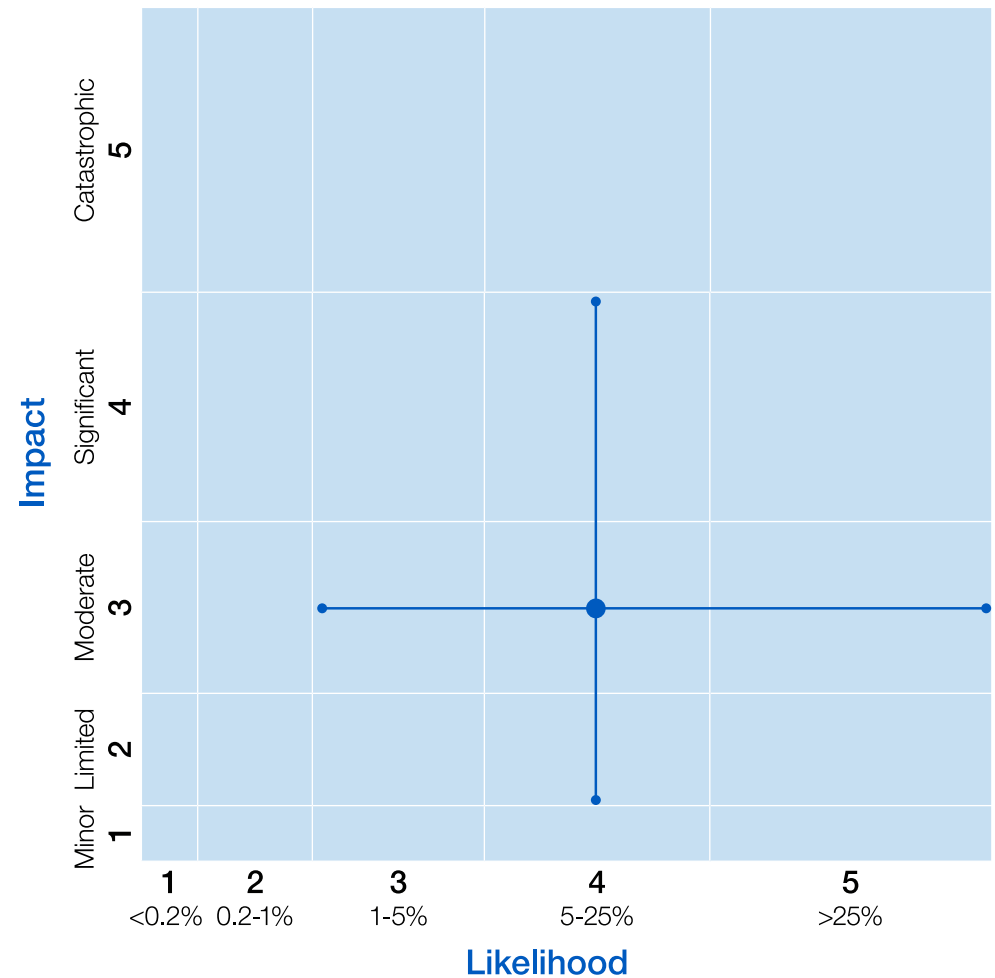
Volcanic eruption

Key assumptions for this scenario

Volcanic eruptions are unpredictable in nature and their severity can be vastly different depending on the type. Disruption to aviation services is also dependent on the meteorological conditions, which are also variable.

There are no assumptions about the specific location of volcanic eruption. It is assumed that the eruption produces a large ash cloud rising to high altitude in conjunction with meteorological conditions causing major disruption to aviation in the UK and Europe. Some early warning signs may be observed before a full eruption occurs, including volcanic earthquakes, seismic tremor (vibration), ground deformation (changes in elevation), gas emissions or meltwater from glaciers.

Variations of this scenario

A gas rich volcanic eruption is a less likely, less impactful manifestation of the risk. The risk to aircraft is likely to be limited but could lead to short-term disruption. A lower impact, higher probability scenario could see a volcanic eruption with explosive phases over a 2-week period but with smaller ash plumes or winds that carry the ash away from the UK. This would result in ash concentrations in the UK not being sufficient to cause significant travel disruption, but concerns could lead to people postponing travel, resulting in an economic impact on the airline industry and wider UK. There could be disruption to aviation in Iceland and/or Scandinavia.

A higher impact, lower probability variation involves a large eruption (volcanic explosivity index 7, VEI7+) generating ash and gas that is carried across the northern hemisphere, causing widespread devastation. Aviation could experience significant disruption across several countries in this scenario. The eruption could lead to an international humanitarian crisis and include major disruption to supply chains, international displacement, and hazardous weather.

Response capability requirements

The London Volcanic Ash Advisory Centre (Met Office) would produce volcanic ash forecasts and guidance to the relevant agencies and airlines. Consular support would be required for British nationals stranded abroad.

Recovery

Eruptions can last several months to a year with different explosive phases, with disruption to aviation services will also be dependent on meteorological patterns. There could be a period of days before air services return to normal as the backlog is managed.

Earthquake

Significant earthquakes in the UK are rare, and an earthquake powerful enough to inflict severe damage is unlikely. Each year, the UK experiences around 200 to 300 earthquakes but only 10% of these are powerful enough to be noticed by people. There is an increased chance of damage occurring and of that damage being severe, in historical buildings. The risk of damage would be greatest closest to the epicentre and decrease with distance. In 2007, a very shallow earthquake occurred near Folkestone in Kent, resulting in power outages, transport disruption and widespread superficial damage. The most damaging UK earthquake in terms of intensity occurred in 1884 in Colchester, Essex. Approximately 1,200 buildings required repairs to collapsed walls, chimneys and roofs. The maximum observed intensity for the earthquake was 8 on the European Macroseismic Scale (EMS).

EMS is an assessment tool and scale of an earthquake's impact, incorporating the magnitude, local geology, and vulnerability of buildings as part of its measurements. This is preferred to the Richter scale, which only measures the energy of an earthquake, as it provides more information to practitioners and media.

The British Geological Survey (BGS) operates a network of seismometers throughout the UK to acquire seismic data on a long-term basis and to help coordinate an appropriate emergency response, plan for future events and improve confidence in seismic hazard assessments. BGS also collates information on historic earthquakes, to improve estimates of earthquake activity rates, a key part of hazard assessment. These activities are part of its Seismic Monitoring and Information Service.
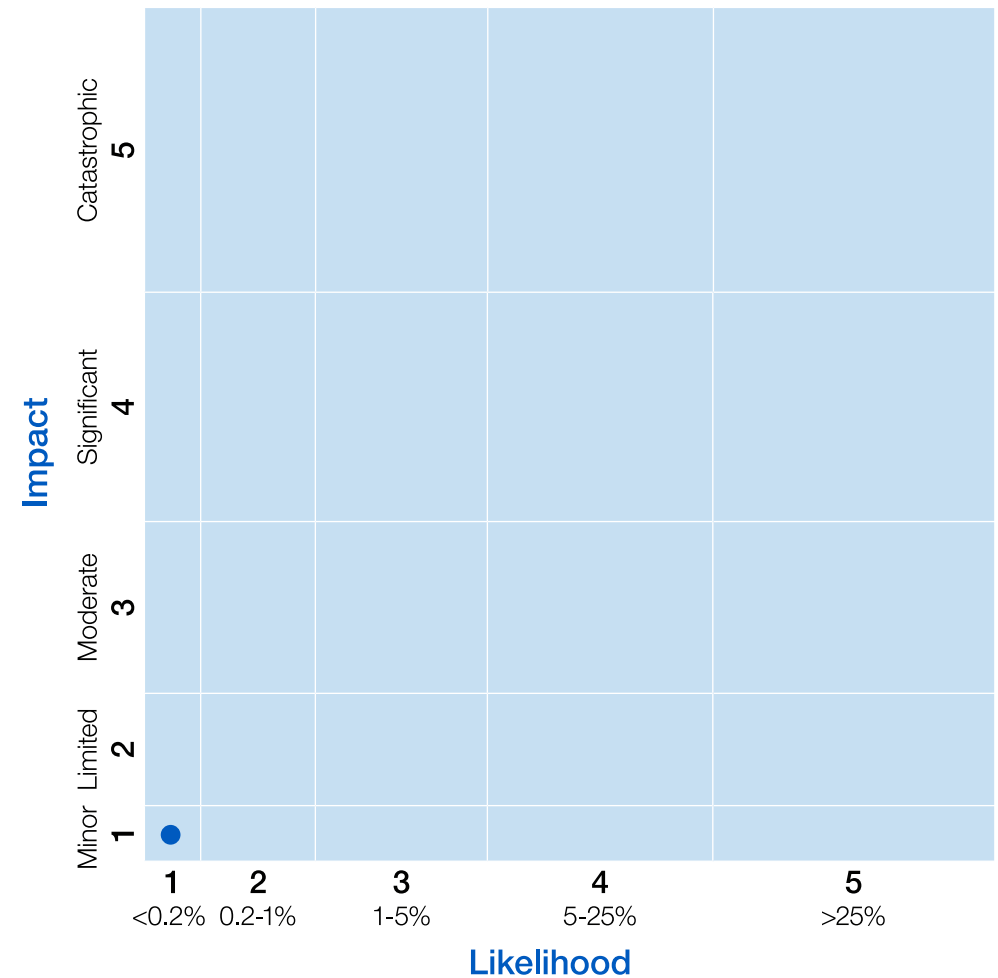
Earthquake 195

Scenario

The reasonable worst-case scenario is based on earthquake activity in the UK that results in the ground shaking with an intensity up to 8 on the EMS, which causes damage to buildings and infrastructure. This could result in a small number of fatalities and casualties due to falling masonry or interior damage. Damage to buildings would range from moderate to severe, for example from extensive cracks in walls to complete collapse of chimneys. More substantial damage could occur to more vulnerable structures. Such an earthquake may cause short-term but significant disruption to infrastructure, transport and communications, even if the physical damage is comparatively minor. There is a low likelihood of power outages caused by vibration of apparatus at electrical substations. There is also a low likelihood of disruption to transport and communications networks. Safety inspections of high consequence structures and installations including nuclear power plants, dams and reservoirs, bridges and tunnels would be required.

Key assumptions for this scenario

The risk assumes that no critical infrastructure is damaged to an extent that overwhelms existing emergency plans. It assumes one EMS 8 earthquake, with further related earthquakes having only minor impacts.

Variations of this scenario

A higher magnitude earthquake, or one that affects more critical infrastructure or built-up areas would have higher impacts.

Response capability requirements

Capabilities required to deal with the aftermath from an earthquake are largely covered by plans put in place by government departments and Local Resilience Forums (LRFs). This includes the restoration of essential services (gas, water, electricity, communications) due to pipes or cables being disrupted. Damage to infrastructure such as power or communications networks will require specialist intervention. Additional support could be provided via mutual aid agreements with neighbouring local authorities or LRFs – supplemented as necessary by national support (for example specialist Fire and Rescue equipment held as national assets).

Recovery

Temporary or permanent rehousing may be necessary where residential properties are unsafe or uninhabitable (due to a lack of access or a lack of services), and while clearance and assessment is carried out. Temporary relocation of commercial premises or other infrastructure such as schools might be necessary where the properties have been damaged and are considered unsafe or unusable.Short-term closures of bridges, roads, and rail lines may be necessary to carry out safety inspections and repairs. There are unlikely to be any significant long-term implications from an earthquake, although there may be a spike in numbers of people seeking access to mental health services for psychological support in the months after the incident. Vulnerable persons and children in particular are more likely to require support.

Aftershocks may be experienced following magnitude 5 and 6 earthquakes, which could last weeks or months. These aftershocks may cause further disruption and damage, delaying recovery efforts.
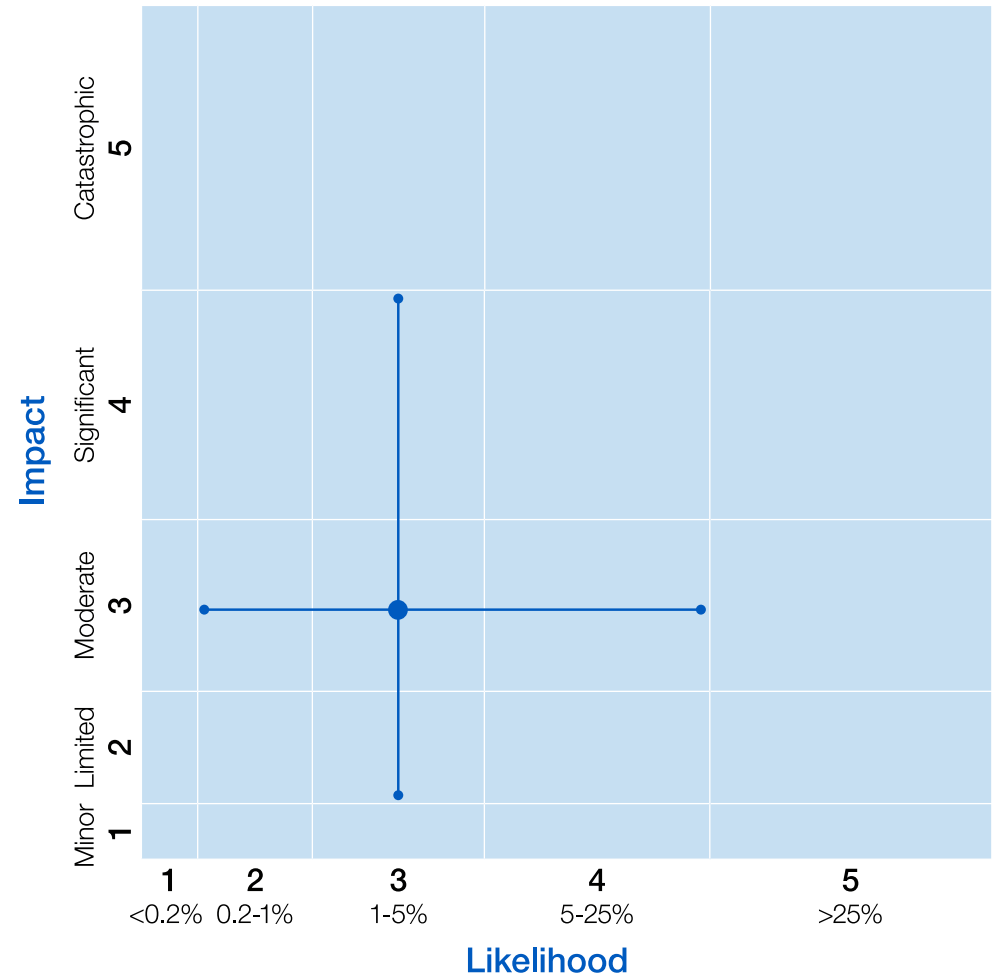
Humanitarian crisis overseas: natural hazard event

A natural hazard event such as an earthquake, hurricane or tsunami may result in a humanitarian crisis overseas that directly impacts UK interests or citizens. For example, the UK has provided extensive humanitarian support to Turkey and Syria following devastating earthquakes in February 2023. This includes millions of pounds of financial support, medical personnel, and items such as tents and blankets.

Scenario

The reasonable worst-case scenario is based on a major earthquake (magnitude 8.0+) occurring along the Sunda-Andaman fault zone in the Bay of Bengal. This would result in a tsunami that impacts Myanmar, Bangladesh, western India, and Sri Lanka, and cause casualties and fatalities among British and non-British nationals. The UK would also have a significant diaspora population from the affected regions.

This scenario could lead to the destruction of housing along the Bangladesh coast, impacting a significant number of people including refugees. In Dhaka, Chittagong and Kolkata, there would be destruction to critical infrastructure, with casualties, and displacement also expected. In Western Myanmar, a tsunami would impact the conflict-affected Ayeyarwady and Rakhine states. In Northeast India, populations would be impacted by destruction to property and infrastructure. In Sri Lanka, the north-eastern coast would be hardest hit.

Impact (y-axis): 1 Minor / Limited, 2 Limited, 3 Moderate, 4 Significant, 5 Catastrophic

Likelihood (x-axis): 1 <0.2%, 2 0.2-1%, 3 1-5%, 4 5-25%, 5 >25%

Humanitarian crisis overseas: natural hazard event

Variations of this scenario

This scenario could manifest across different geographies and be caused by different natural hazards. An event impacting multiple countries would require the same capabilities.

Response capability requirements

The UK's capability to respond would be through the provision of international search and rescue, operational infrastructure support and humanitarian assistance. There may be an additional refugee dynamic, particularly for people with family based in the UK.

Recovery

Recovery from the disaster would require sustained financial support from donors and the UN system. Society and conflict dynamics in conflict-affected states would likely be altered geopolitically.

198

Disaster response in Overseas Territories

The Overseas Territories (OTs) are particularly vulnerable to high-impact natural hazards (hurricanes, volcanoes, earthquakes). For example, a hurricane in one of the Caribbean OTs may exceed local response capacity, requiring significant UK support in the short-term (humanitarian aid and emergency services) and long-term (relief and recovery). These natural hazards pose significant risks to British nationals and local economies

Scenario

One possible scenario is based on a hurricane occurring in one of the Caribbean OTs that exceeds local response capacity and requires significant short-term support (humanitarian aid and emergency services) and long-term UK response (relief and recovery). It is possible that a natural hazard may hit several Caribbean OTs at once, such as Hurricanes Irma and Maria. Impacts could include fatalities and casualties, damage to infrastructure and security consequences (law and order breaking down). There would also be a significant impact on the economy and wider society, as well as a risk to the UK Government's reputation during the recovery operation.

Key assumptions for this scenario

The scenario assumes that the small government structures in the OTs do not have the capability to provide adequate crisis management.

Variations of this scenario

The 14 inhabited OTs are spread across the globe and are susceptible to different disasters, with a major disaster in any of them requiring some form of response. For example, a natural hazard hitting an OT will involve the local population and possibly large numbers of tourists. Some OTs have active volcanoes – were they to erupt, this would be another scenario that would cause widespread disruption and might require evacuation.

Response capability requirements

Initial support would need to be flown in from the UK, who would then work with the OT government to assess and plan for longer-term recovery. Cross-government support may be required in the immediate response phase.

Recovery

The first few days would be critical as UK support would be needed to reopen ports, re-establish order and repair key utilities (water, power, etc). The organisation would need to transition to a long-term support model to help the OTs rebuild over time. It is impossible to predict what the overall impact would be, but there would potentially be major reconstruction work required.

200

Severe space weather

The term 'space weather' describes a series of phenomena originating from the sun, which include solar flares, solar energetic particles and coronal mass ejections. Day-to-day space weather causes little more than the Aurora Borealis in polar regions, but strong space weather events can bring disruption to many vital technologies. Orbiting satellites are particularly vulnerable to space weather effects, and can be damaged or temporarily disabled.

Scenario

The reasonable worst-case scenario for this risk is based on a severe space weather event, approximately the same scale and magnitude as the Carrington Storm of 1859, lasting for 1-2 weeks. It includes a number of different solar phenomena including coronal mass ejections, solar flares, solar radiation storms and solar radio bursts. Each phenomenon would likely occur several times during a 2-week period, with each varying in magnitude, temporal and spatial extent. Impacts may include regional power disruptions, loss or disruption of Global Navigation Satellite Systems (for example Global Positioning System (GPS)) and some telecommunications (for example satellite communications and high frequency radio), disruption to aviation, an increase in background radiation doses at high altitudes and in space, and possible disruption to ground-based digital components. The catalogue of tracked objects in orbit would be significantly impacted, raising the risk of on-orbit collisions. There may also be second order impacts such as fatalities and casualties (for example, in the event of power disruptions).
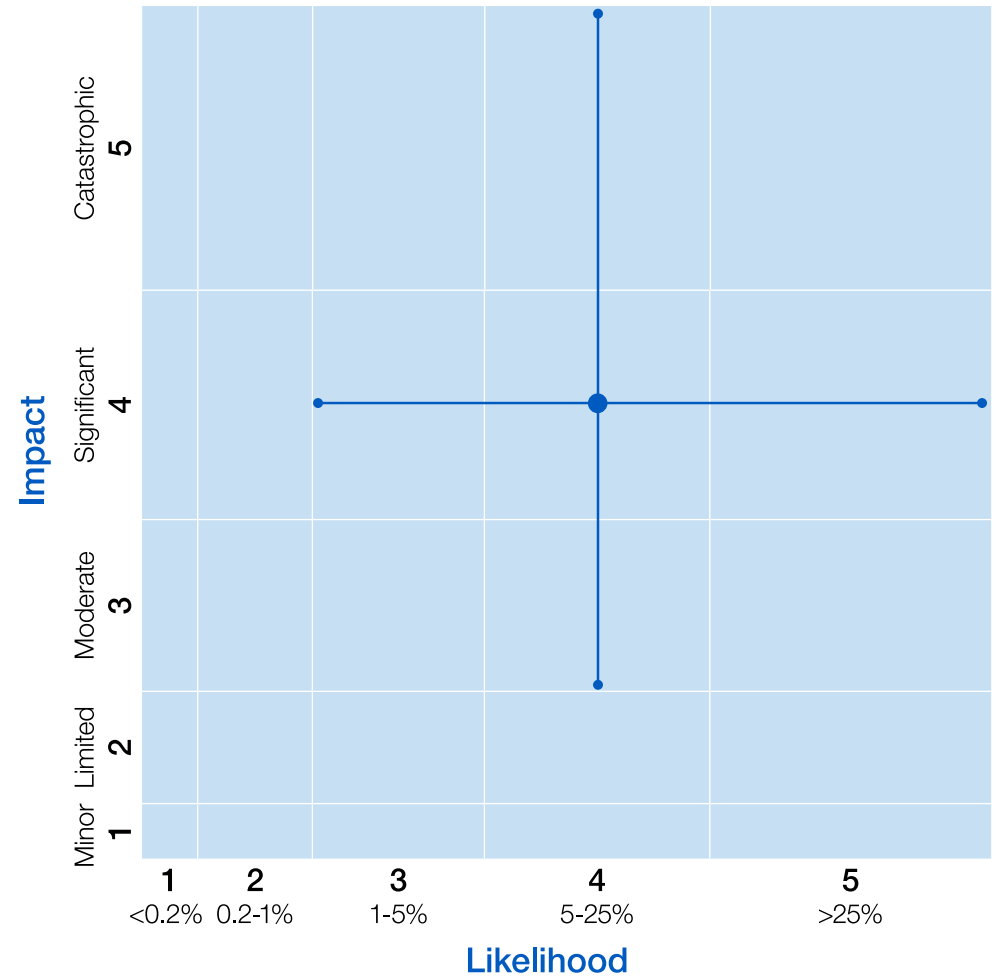
Key assumptions for this scenario

The impacts of severe space weather would be global, although the magnitude would vary, with the key dependencies being latitude, reliance on access to space for the operation of key services and the resilience of engineered and digital infrastructure.

Variations of this scenario

Notable variations are possible in the timescale, type and magnitude of driving solar activity. Therefore, significant events with lesser or greater overall and/or differential impact spectra should be anticipated. This could lead to greater disruption in some sectors, such as aviation and the emergency services.

Response capability requirements

Mobile back-up power generation would be required in some areas for a sustained period, while damaged electricity transformers are replaced, which could take several months. Additionally, resilient communications systems and support for local emergency services and vulnerable members of these populations will be needed.

Recovery

Loss of power due to safety system trips in urban areas could be recovered in a matter of hours. In the event of electricity transformers needing to be replaced in remote coastal areas, recovery could take several months based upon current replacement transformer availability. Loss of, or disruption to, satellite based services and Global Navigation Satellite Systems (for example GPS) has a recovery time of several days, with a small number of satellites non-recoverable. It could take weeks for flight schedules (especially long-haul carriers) to fully return to normal. The catalogue of tracked objects on-orbit (satellites and debris) could similarly take weeks to re-establish, with this temporarily raising the risk of collisions.

Storms

Climate change has already altered the risk of certain types of extreme weather in the UK, with evidence suggesting that the frequency and intensity of storms is likely to increase in the future. The UK has experienced several severe storms over the last few years, including Storm Eunice in 2022, which brought gusts in excess of 100mph.
The impacts of the storm across the UK included 3 fatalities, school closures, power cuts and nationwide cancellations of transport services.
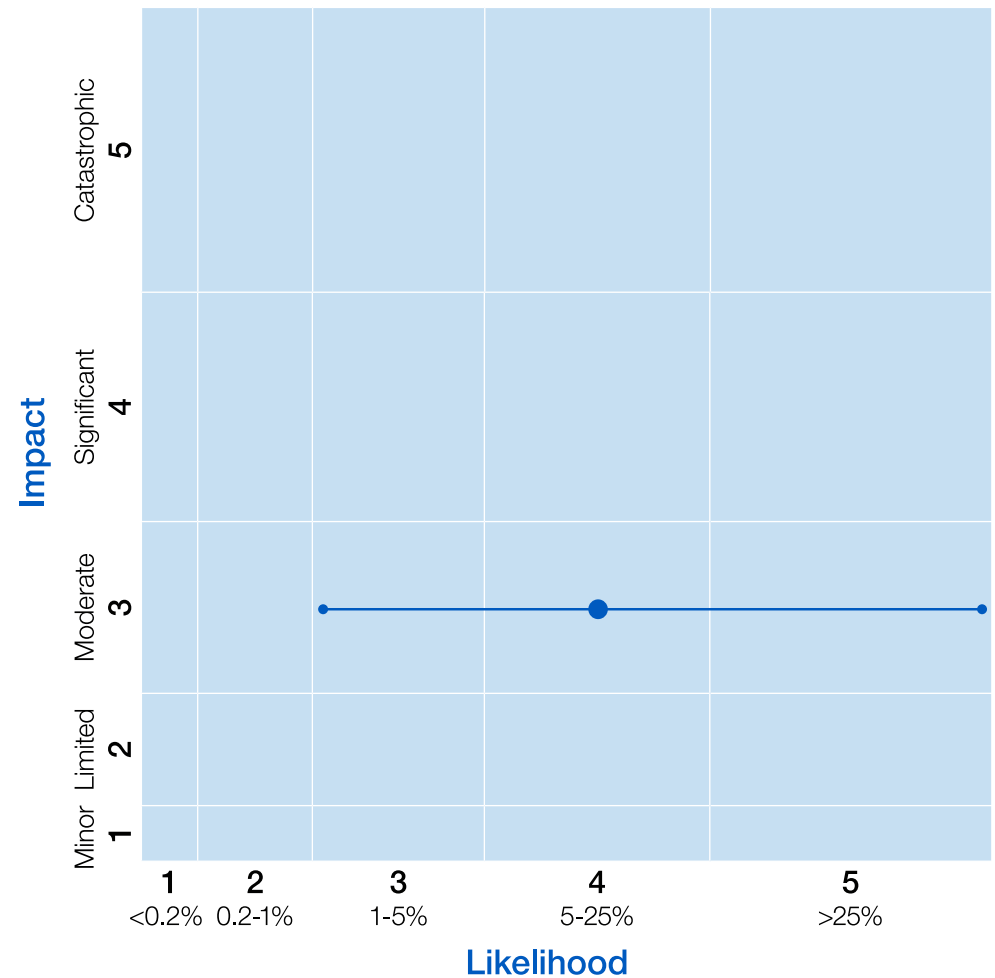
Scenario

The reasonable worst-case scenario is based on storm force winds affecting multiple regions of the UK for at least 6 hours during a working day. Most inland, lowland areas would experience mean (average) wind speeds in excess of 55 mph, with gusts in excess of 85mph. Although the storm would be over in less than a day, disruption to infrastructure including power, communications, transport networks, homes and businesses could last for 1-4 days and for more than 5 days in remote rural locations.

There would likely be some casualties and fatalities, mainly due to falling trees, structures or other debris. Some environment and economic impact would also be expected, due to fallen trees and disruption to transport networks.

Key assumptions for this scenario

This risk is based on historical events, primarily combining the impacts of the October 1987 and Burns Day 1990 storms. The likelihood of these events varies, with northern areas more likely to be affected.

Variations of this scenario

In a variation, wind strengths may be less, but from a direction other than the prevailing westerly/southwesterly. This may bring additional hazards (for example snow) and vulnerabilities to trees and infrastructure.

Response capability requirements

The Met Office National Severe Weather Warning Service provides warnings for severe weather (including wind) up to 7 days ahead of it affecting the UK. This service gives advance warning of storms and enables individuals and organisations to plan and mitigate against the potential impacts ahead of the severe weather.

Recovery

For most of the impacts in this scenario, recovery would take place over several days, but could take longer in some instances once the storm has passed. Power and communications supplies to affected rural areas may be last to be restored. There may, however, be some long-term, even permanent, impacts to the environment, as trees and habitats that have been destroyed by the storm could take a long time to become re-established.
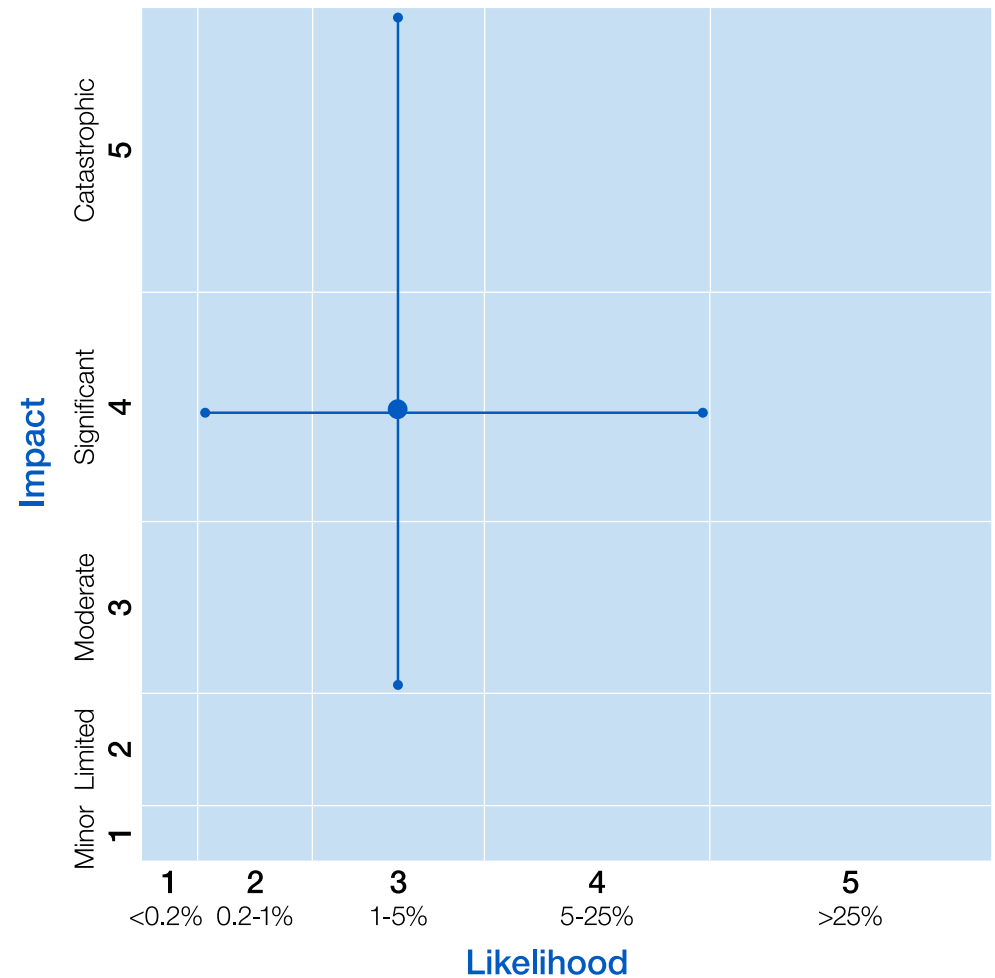
High temperatures and heatwaves

Climate change means that the risk of extreme heat has become more likely in the UK, with this trend expected to continue over the coming decades. A heatwave is defined as an extended period of hot weather relative to the expected conditions for an area at that time of year. The UK experienced a series of heatwaves in the summer of 2022, with temperatures reaching up to 40°C in some areas.

Scenario

The reasonable worst-case scenario is based on an extended period of high temperatures and would affect 50-70% of the UK population. This would take place over 5 consecutive days, with maximum temperatures exceeding 35°C. Temperatures may approach or exceed 40°C in some places, with this most likely in parts of south-eastern, eastern, or central England. Such a spell of weather would cause significant health impacts to the general population, with excess deaths above the number experienced in a normal summer expected. Disruption to transport networks, supply chains, power supplies and water supplies would be expected. Social and economic disruption would be likely as everyday behaviours have to change, including working patterns and levels of productivity. Other hazards are very likely to occur concurrently with, or immediately after, the heatwave, including flooding from severe thunderstorms, poor air quality, drought, and wildfires.

Key assumptions for this scenario

The influence of climate change on the increased likelihood and intensity of high temperature episodes is already being observed, and this increase will continue. Additionally, there is evidence that mortality increases significantly with increasing temperatures in heatwaves.

High temperatures and heatwaves

Response capability requirements

The Met Office National Severe Weather Warning Service provides warnings for severe weather (including extreme heat) up to 7 days ahead of it affecting the UK.

The UK Health Security Agency (UKHSA) has launched the Adverse Weather and Health Plan (AWHP) as part of a commitment under the National Adaptation Plan to bring together and improve existing guidance on weather and health. The AWHP brings together the previous Heatwave Plan for England, first published in 2004, and the Cold Weather Plan for England. The AWHP builds on existing measures taken by the government, its agencies, NHS England and local authorities to protect individuals from the health effects of adverse weather and build community resilience.

The Heat-Health Alert System will transition to impact-based alerting for summer season 2023, with the Cold Weather Alert system following in winter 2023/2024. The alerts will be issued by UKHSA in collaboration with the Met Office, with users needing to register for this new alerting system.

Recovery

During periods of heatwave, there is generally an increased risk of sunburn, which in the long term could lead to an increase in skin cancer. However, it is not clear that a short period heatwave event such as this scenario, would really have a major long-term impact. Recovery from this event would be quite quick. Where high temperatures and heatwaves lead to secondary impacts such as an increase in the likelihood and impact of wildfires and longer-term drought conditions, recovery due to these secondary impacts may take longer.

Low temperatures and snow

Winters with low temperatures and heavy snowfall pose a significant threat to human welfare, essential services and the economy. In late February and early March 2018, the UK experienced a spell of severe winter weather with very low temperatures and significant snowfall. This event became known as 'The Beast from the East' in the media and led to widespread impacts across the UK, including disruptions to transport services, school closures and power cuts.

Scenario

The reasonable worst-case scenario is based on snow falling and lying over multiple regions of the UK and a substantial proportion of the UK population, including substantial areas of low-lying land (below 300m), for at least one week. After an initial fall of snow, there would be further snow fall on and off for at least 7 days, with brief periods of freezing rain also possible. Most lowland areas would experience some falls in excess of 10cm at a time, a depth of snow in excess of 30cm for a period of at least 7 consecutive days with daily mean temperature below minus 3°C. Overnight temperatures would fall below minus 10°C in many areas affected by snow. Such a spell of weather would affect vulnerable communities, particularly older people and those with pre-existing conditions (for example cardiovascular/respiratory disease). An increase in falls, injuries (for example fractures), road accidents and hypothermia would also be expected. There would be excess deaths, above what is experienced in a normal winter, with a significant number of casualties and fatalities, placing significant pressure on health and social care services. Considerable impact to essential services, along with economic impact, would be likely due to disruption to transport networks, power or heating fuel supplies, telecommunications and water supplies. Schools and businesses would also be impacted by such disruption.
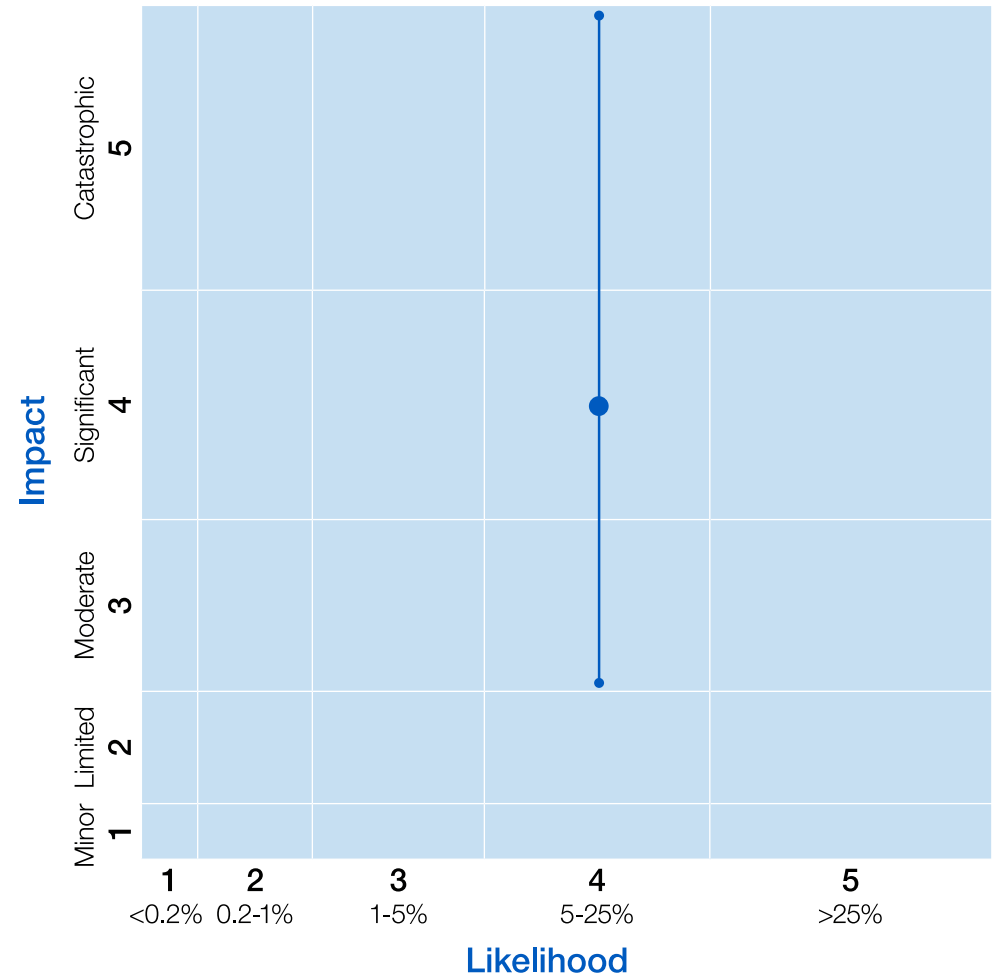
Key assumptions for this scenario

The risk assumes that all types of impact experienced during previous cold and snow events are likely to occur during such a spell of weather described in the risk. High level and rural communities are likely to be affected for longer by snow than lower altitude towns and cities.

Variations of this scenario

Severe snow/cold events could be longer, cover more low-lying land, and be accompanied by significant drifting. An event affecting the rest of Europe could affect supply chains. Response capability requirements The Met Office National Severe Weather Warning Service provides warnings for severe weather (including snow) up to 7 days ahead of it affecting the UK. This service gives advance warning of snow and ice and enables individuals and organisations to plan and mitigate against the potential impacts ahead of the severe weather.

The Heat-Health Alert System will transition to impact-based alerting for summer season 2023, with the Cold Weather Alert system following in winter 2023/2024. The alerts will be issued by UKHSA in collaboration with the Met Office, with users needing to register for this new alerting system.

The UK Health Security Agency has launched the Adverse Weather and Health Plan (AWHP) as part of a commitment under the National Adaptation Plan to bring together and improve existing guidance on weather and health. The AWHP brings together the previous Heatwave Plan for England, first published in 2004, and the Cold Weather Plan for England.

The plan builds on existing measures taken by the government, its agencies, NHS England and local authorities to protect individuals from the health effects of adverse weather and build community resilience.

Recovery

Longer-term impacts from low temperatures and heavy snow are not anticipated. Where low temperatures and snow lead to secondary impacts such as an increase in the likelihood of utility system failures or flooding due to snowmelt, recovery due to these secondary impacts may take longer.

Coastal flooding

Coastal flooding is caused by high tides, low pressure weather systems, and surge conditions caused by strong winds blowing large waves towards the shore. As sea levels continue to rise as a result of climate change, the risk of coastal flooding will also increase. Flooding events have serious consequences on coastal communities, including disruption to essential services, the economy and environment, with disproportionate effects on vulnerable groups. The government has well-established arrangements for minimising the risk from flooding including, the deployment of fixed and temporary defences, public warning and informing alert systems, and local and national response mechanisms.

Scenario

The reasonable worst-case scenario is based on coastal flooding across the east coast of England, impacting a very large number of residential properties. Comprehensive warning and informing systems would be employed and a large number of people would require evacuation and shelter, with a significant proportion of these requiring assistance. The number of people affected could be even greater during the holiday season. There would be fatalities and casualties, including those whose death, illness, or injury are an indirect consequence of flooding. Large areas of road and railway could be flooded, with other major infrastructure such as schools, hospitals, care homes, emergency services and agricultural land also affected.
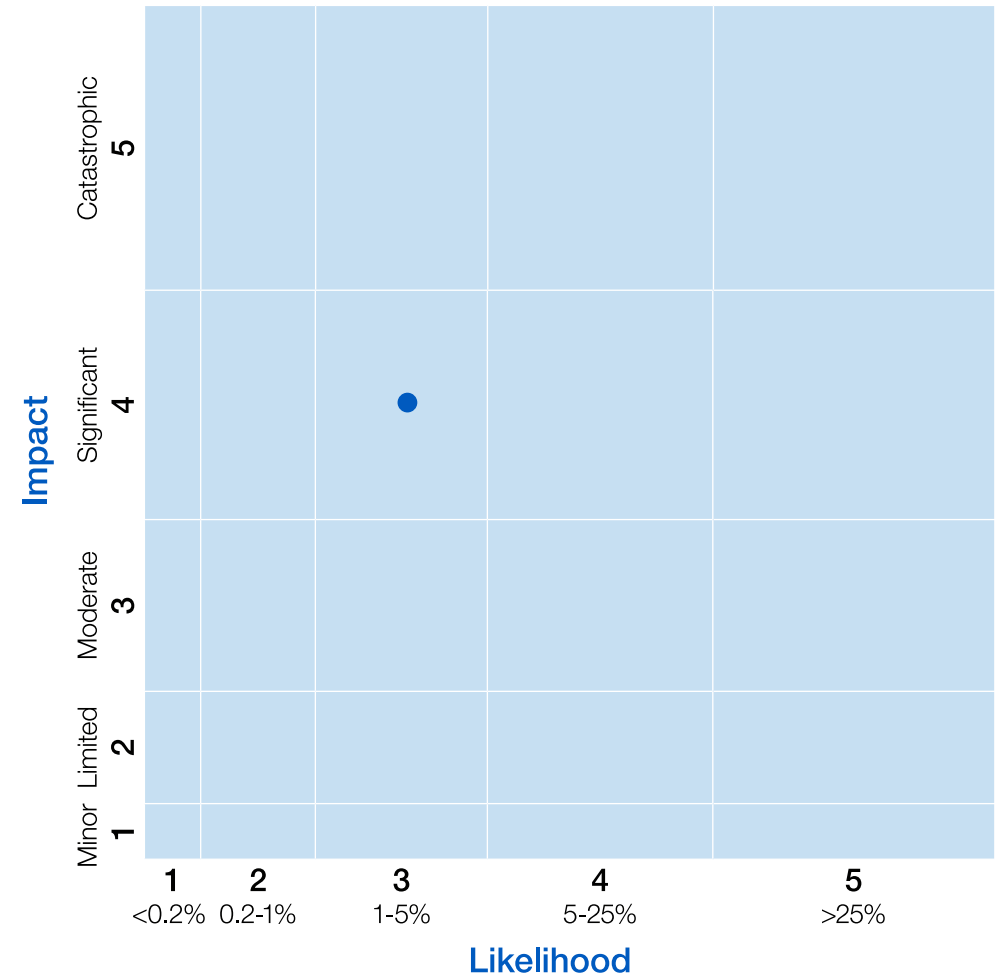
Coastal flooding

Key assumptions for this scenario

A key assumption for this scenario is that the existing high levels of preparedness for local planning and response continue to operate. The Environment Agency (EA) and others continue investing in new coastal defences and maintaining existing coastal defences. There would be between 5-7 days of flood forecasts showing medium and then high risk of coastal flooding from the Flood Forecasting Centre (FFC). Severe Flood Warnings would be issued a minimum of 24 hours in advance by the EA.

Variations of this scenario

Coastal flooding is highly variable and dependent on where the flooding occurs. Certain areas are more vulnerable to flooding, and the impact there would be higher. Higher risk areas also have greater protections via barriers and advanced warning systems.

Response capability requirements

An advanced flood forecasting capability is available via the Met Office and the FFC. The FFC produces products that identify potential flood impacts from weather scenarios. These products help inform long-term emergency planning and in the lead up to a potential flooding event. The FFC target is to consistently provide at least a 3-day lead time for coastal events. The EA leads operational preparedness and response to flood impacts and, during local-level operation response, would work as part of a multi-agency team, coordinated through the LRF to support flood preparedness, warning and informing the public, operating defences and systems and coordinating any evacuation including accommodation requirements.

The local response will have access to operational resources including temporary flood barriers, mobile pumps and the necessary logistical support to transport and deploy these resources. Flood rescue teams (which consist of over 100 specialist flood rescue teams on standby to be deployed across the country), national mutual aid and military assistance can also support a local response. Any national coordination would be led by the EA and the Department of Environment, Food and Rural Affairs.

Recovery

A major recovery operation is required involving economic, environmental, infrastructure and humanitarian impacts. The recovery process would likely last beyond 2 years, especially if significant repairs are required to infrastructure, homes and businesses. Mental and physical impacts on affected citizens may also be longer-term.
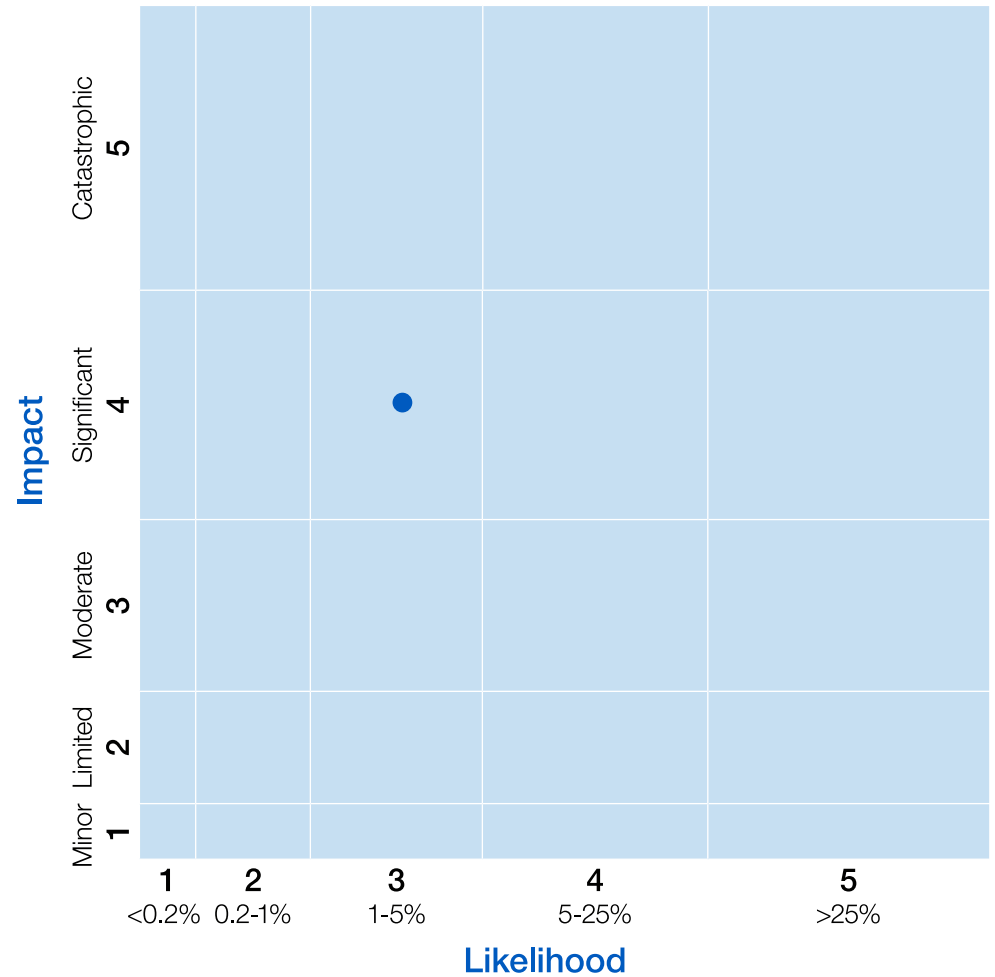
Fluvial flooding

Fluvial flooding occurs when waterways such as rivers, streams or brooks overflow their banks into surrounding areas. This risk is most likely to occur following periods of intense rainfall and will become more frequent as a result of climate change. Impacts are widespread and may include damage to the local environment, properties and essential services, with disproportionate effects on vulnerable groups. The government has well-established arrangements for minimising the risk from flooding including, the deployment of fixed and temporary defences, public warning and informing alert systems, and local and national response mechanisms.

Scenario

The reasonable worst-case scenario is based on a significant river flood event, resulting from cumulative local events or a series of concurrent events across multiple geographic regions following a sustained period of heavy rainfall. This could possibly be combined with snow melt and surface water flooding. Flood defences would become overtopped by river levels and breaches may occur in river banks and hard defences as they are put under pressure. Across urban and rural areas there would be flooding of homes and businesses. There will be casualties and fatalities. A large number of people would require evacuation, with a significant proportion of these being vulnerable and requiring assistance. There would be medium-term (days to weeks) loss of essential services (electricity and telecoms) to up to a substantial number of homes and businesses, with disruption to water supplies.

Key assumptions for this scenario

The scenario assumes the event would occur at night time after an extended period of rainfall lasting 2 weeks in a large urban area. There would be a loss of essential services to homes and businesses possibly lasting several weeks.

Variations of this scenario

A lower-impact scenario could involve fewer breaches and an overtopping of flood defences, with more localised areas impacted. A higher-impact scenario would involve the additional risk of severe surface water flooding over already-saturated catchment areas.

Response capability requirements

An advanced flood forecasting capability is available via the Met Office and the Flood Forecasting Centre (FFC). The FFC produces products that identify potential flood impacts from weather scenarios. These products help inform long-term emergency planning and in the lead up to a potential flooding event. The FFC target is to consistently provide at least a 3-day lead time for fluvial events.

The Environment Agency (EA) leads operational preparedness and response to flood impacts and, during local-level operation response, would work as part of a multi-agency team, coordinated through the Local Resilience Forum (LRF) to support flood preparedness, warning and informing the public, operating defences and systems and coordinating any evacuation including accommodation requirements.

The local response will have access to operational resources including temporary flood barriers, mobile pumps and the necessary logistical support to transport and deploy these resources. Flood rescue teams (which consist of over 100 specialist flood rescue teams on standby to be deployed across the country), national mutual aid and military assistance can also support a local response. Any England-wide coordination would be led by the EA and the Department for Environment, Food and Rural Affairs.

Recovery

Major recovery impacts and long-term economic, environmental, infrastructure and humanitarian implications would go beyond 2 years especially if significant repairs are required to infrastructure, homes and business. Mental and physical impacts on affected citizens will last for years. Businesses would experience significant impacts, and the long-term contamination of agricultural and other land would also be likely.
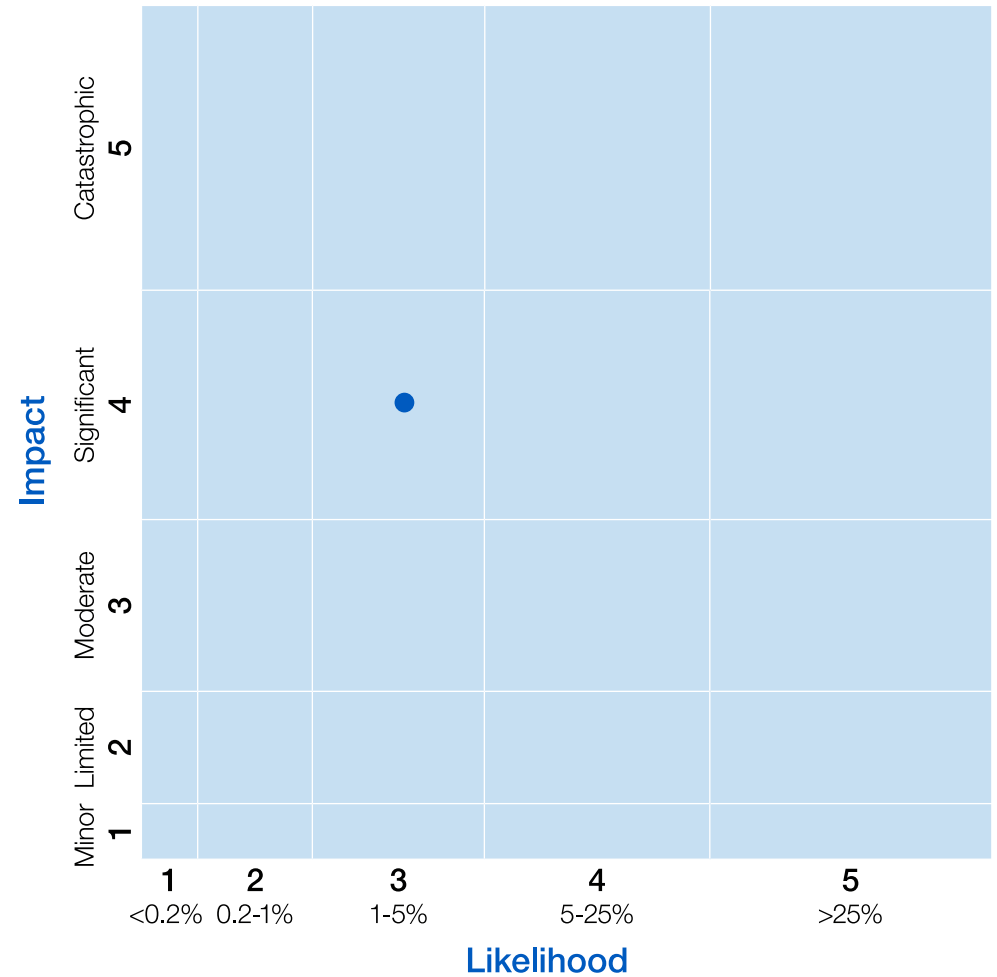
Surface water flooding

Surface water flooding occurs when rainfall overwhelms the capacity of drainage systems and surface water sewers, resulting in water flowing over the land instead of through drainage systems. This type of flooding can occur in a wide variety of locations, including towns or cities located far from the sea or rivers. It is also particularly difficult to forecast with accuracy and can happen at very short notice, with periods of short but intense rainfall likely to increase in the future due to the warming climate.

Scenario

The reasonable worst-case scenario is based on a large flood event in a metropolitan area, resulting from a pocket of exceptionally high rainfall in the south east. The most severe impacts in any metropolitan area would lead to significant damage to homes and businesses. The evacuation of residents would be necessary, with short- to medium-term shelter being required. Depending upon the geological conditions, surface water flooding may lead to an increased likelihood of geological instability (for example sinkholes or landslides) in the impacted area. This could cause significant impacts to the local response, transport infrastructure, and other infrastructure in the impacted area.

Key assumptions for this scenario

Areas most at risk would not be warned until 6-24 hours before the event and the exact location of the most intense rainfall would not be known in advance due to the unpredictability of where and when heavy thunderstorms will occur.

Variations of this scenario

A high impact but less likely variation could involve surface water flooding in an urban area exacerbated by coastal or fluvial flooding. There would also be greater disruption from surface water flooding in areas with dense populations, with poor drainage creating greater levels of property damage and displacement of possibly thousands of people.

Response capability requirements

Lead Local Flood Authorities have responsibility for managing surface water flood risks, including assessing the risks, implementing a local flood risk management strategy and working in partnership with other involved agencies. The Department for Levelling Up, Housing and Communities has well-established multi-Local Resilience Forums mutual aid arrangements in place to support flood preparedness and a coordinated national response. Pre-prepared national resources are available, including sandbags, mobile flood barriers and mobile pumps, ready to be moved where needed.

Recovery

There would be extensive damage to homes and businesses as people would be unprepared due to the lack of surface water specific warning systems. Surface water flooding would have major recovery impacts and long-term economic, environmental, infrastructure and humanitarian implications.

Drought

A drought may occur following a period of abnormally low rainfall, which results in a shortage of water. The future risk of droughts due to climate change is increasing, and there is a trend towards hotter summers with associated high water demand. Simultaneously, changes in consumer habits and population growth is increasing water use in the UK.

Drought impacts can be reduced through water efficiency campaigns and amplified via national messaging to encourage the public to reduce water demand. Interventions to support farmers are available, ranging from the protection of water rights to providing funding research and development on water management.

Scenario

The reasonable worst-case scenario is based on large parts of South and East England facing severe drought conditions after 3 consecutive dry winters. Neighbouring areas of the Midlands and South West would face drought related impacts and there would need to be public water supply restrictions. There would be significant losses to the UK economy, with serious impacts on industry, agriculture and businesses. Severe environmental damage due to drought conditions would occur, along with an increased fire risk due to dry conditions. This would be combined with a reduced ability to fight fires due to water scarcity.

Key assumptions for this scenario

Three consecutive dry years would be required in order for a severe or emergency drought to occur. This would allow for preparations to begin ahead of time and for mitigations to be put in place.
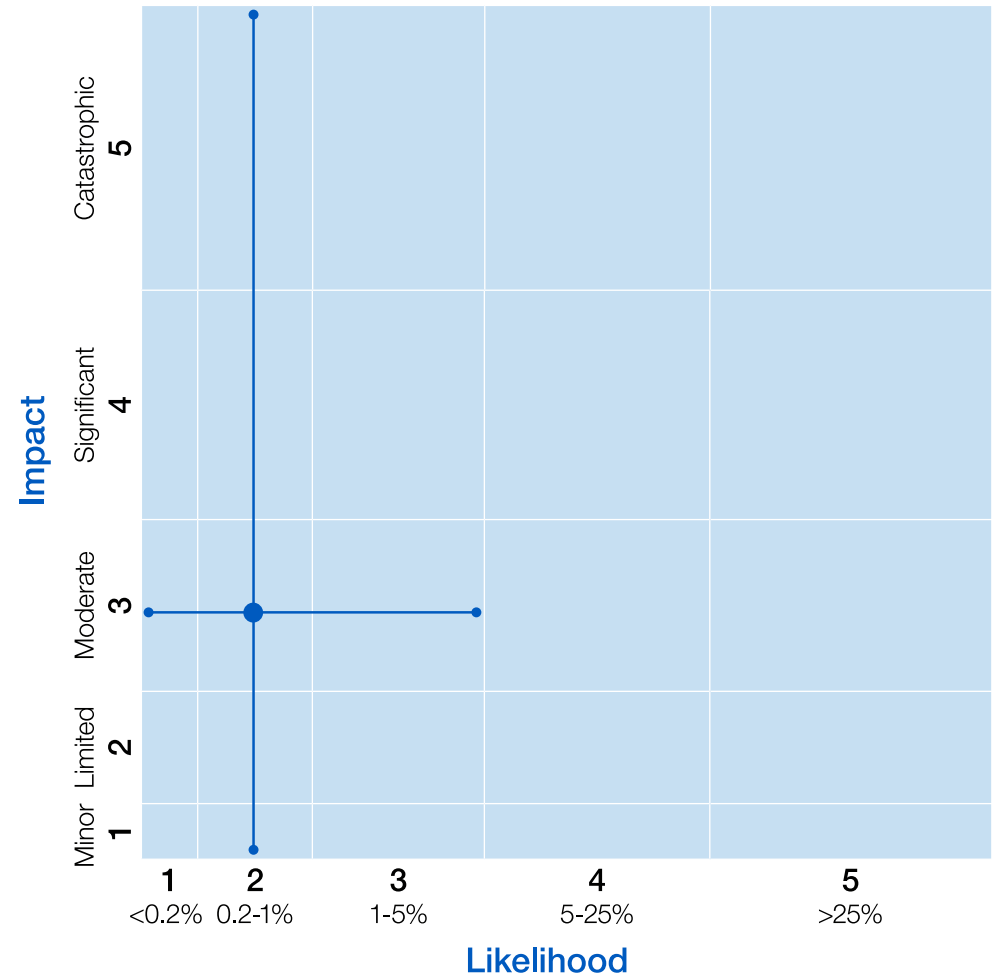
Variations of this scenario

There are likely to be significant regional variations. A drought may end sooner than expected if a wetter period of weather occurs.

Response capability requirements

The Environment Agency (EA) and water companies have comprehensive systems in place to monitor rainfall and water resources. National coordination plans are in place through the EA and the Department for Environment, Food and Rural Affairs. This is overseen by the National Drought Group. A range of regulatory restrictions, including limiting the amount of water that farmers and businesses are allowed to abstract from rivers, and consumer communication campaigns to encourage reducing water consumption can help to make water supplies last as long as possible. Water companies may also consider Temporary Usage Bans to manage water resources.

Recovery

How quickly rainfall reaches normal levels, and the depth of impacts that have occurred during the drought, would impact the speed of recovery. Most businesses would recover as soon as normal water supply is resumed, though heavily water-reliant businesses may take several months or years to recover. A severe drought of the type modelled in this scenario would pose particularly difficult challenges for the recovery of the natural environment.

Poor air quality

Air quality has improved significantly over recent decades. However, air pollution remains the largest environmental risk to UK public health and is linked with reduced lifespans. Short-term surges in poor air quality occur primarily due to weather conditions preventing pollution from dispersing. These conditions include low winds or temperature inversion. Air quality is also worsened by the ultraviolet light from sunshine, as it reacts with the air to generate ozone. The government set out commitments to tackle all sources of air pollution and improve air quality for all through the Clean Air Strategy. The Environmental Improvement Plan sets out the actions that will support us to continue improving air quality and to meet our new interim and long-term targets for PM2.5 set under the Environment Act 2021. In addition, the UK Government has published a revised air quality plan for tackling nitrogen dioxide (NO_2) emissions in urban areas.

Scenario

The reasonable worst-case scenario is based on a 30-day period of elevated ground level ozone or fine particulate matter. During a poor air quality event of this kind, the UK could experience significant health risks, including an increase in deaths from exacerbation of respiratory or cardiovascular conditions, with an associated increase in hospital referrals and pressure on emergency response services. The duration of an air quality episode would be heavily influenced by meteorological conditions. High ground-level ozone episodes in the UK occur most commonly in the summer months when high pressure weather systems dominate. Elevated ground-level ozone can also occur during springtime.
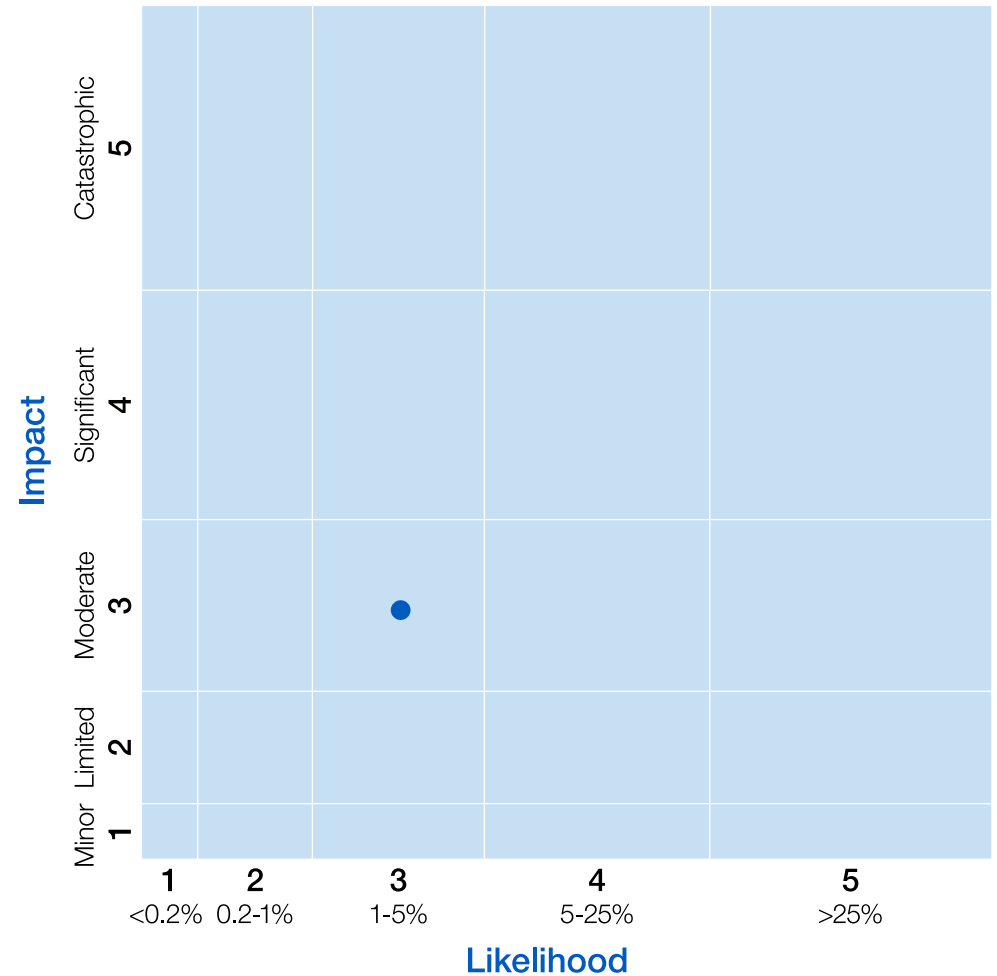
Poor air quality

At a national scale elevated fine particulate matter concentrations are most common in the spring. In urban centres however, high particulate matter events can occur at almost any time of year if emissions from road transport and domestic sources are released in certain weather conditions.

These episodes may be worsened when already polluted air from continental Europe is drawn over the UK. Fine particulate pollution events may also arise from other natural phenomena including the wind suspension of soil dust following drought, from long-range transport (for example Saharan dust), and from uncontrolled biomass combustion from wildfires.

Key assumptions for this scenario

The main assumption is that the air pollution event would last for up to 30 days, with elevated ozone and/or particulate matter.

Variations of this scenario

A less impactful but more likely variation involves a shorter 22-day air pollution event, although this would require the same response capabilities.

Response capability requirements

Communications networks to provide advice to those in affected areas (ensuring messaging reaches those who are most vulnerable, such as older adults) would be required. Access to healthcare professionals, including GPs to help individuals with less severe symptoms, and emergency services and hospitals to assist those with more severe symptoms would also be essential.

Recovery

Poor air quality is known to have long-term health impacts, such as cardiovascular and respiratory conditions. Based on current evidence however, it is not possible to distinguish the relative contributions from air quality episodes and longer-term exposure to lower levels of air pollutants.

Human, animal and plant health

Pandemic

Pandemics are usually the result of a novel pathogen (virus, bacteria, fungi or other organisms that cause disease) emerging and spreading quickly around the world due to lack of population immunity. Once the pathogen emerges it is crucial to gain a rapid understanding of the spread, transmission, symptoms, severity, immunity, treatments and healthcare pathways. Experts consider a respiratory pathogen to be the most likely cause of a future pandemic affecting the UK based on the emergence of pandemics since 1900 and, as such, assumptions based upon a respiratory disease underpin the reasonable worst-case scenario for government pandemic preparedness planning. However, the government continues to plan and prepare for a range of pandemic and emerging infectious disease scenarios, across the five different transmission routes: respiratory, blood and sexual, touch, oral (food and water) and by vectors such as mosquitos. This approach covers known or unknown pathogens (referred to as "Disease X" by the World Health Organisation). The UK has flexible pandemic response capabilities that are built on lessons learned from exercises and incidents, including the COVID-19 pandemic.

Scenario

The reasonable worst-case scenario is based on an unmitigated respiratory pandemic with an unassumed transmission route and a high attack rate, with 4% of symptomatic infections requiring hospital care and a case fatality ratio of 2.5%. From start to finish the emergency stage of the pandemic in the UK will last at least 9 months and potentially significantly longer. Response mechanisms are likely to be required beyond 9 months to manage the chronic stage of the risk and longer-term recovery. The pandemic may come in single or multiple waves.
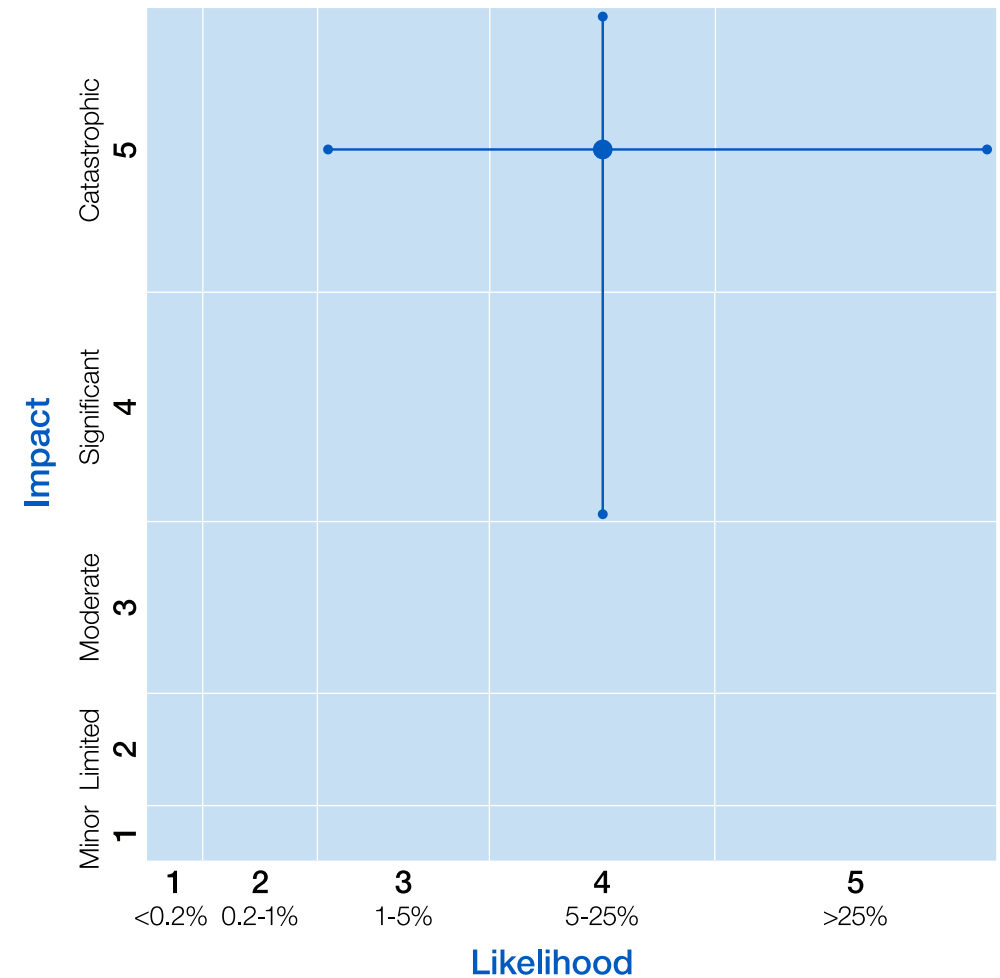
Pandemic

The wave number depends on the characteristics of the disease, public behaviour, and government intervention. The pandemic may lead to behaviour changes in the population depending on the nature of the disease and the government's response. The scenario assumes 50% of the UK's population fall ill during the whole course of the pandemic, with about 1.34 million people estimated to require hospital treatment, possibly resulting in up to 840,000 deaths.

Key assumptions for this scenario

Each pandemic is unique and will be impossible to predict when it will occur. Impacts on society depend on many different factors – transmission route, the time of year it emerges, severity of disease, global travel, who gets ill or dies and where it happens. For the purposes of the assessment, the scenario is an unmitigated pandemic that does not make any assumptions about behaviour change or government interventions being successful at reducing transmission.

Variations

Variations of the reasonable worst-case scenario for the pandemic risk, which is based on an influenza-like illness, are based on different pathogens, some of which have different routes of transmission. These include a possible novel enterovirus pandemic (these viruses are usually mild, but if they infect the central nervous system, they can cause serious illness); a novel coronavirus pandemic; and, a novel sexually transmitted infection pandemic.

Response capability requirements

Disease surveillance and early detection, including timely and reliable data, is needed. There should be procedures to support the identification and isolation of suspected cases and scalable contact tracing, scalable diagnostics (both lab and rapid testing), as well as rapid development and procurement of pharmaceutical countermeasures with stockpiled countermeasures, including personal protective equipment, for known pandemic threats. Effective non-pharmaceutical interventions, including border measures, should also be considered as part of the response. Local and national plans for managing excess deaths should be present, and arrangements for effective UK and global coordination. Plans for social, educational, and economic impacts of the pandemic and expert scientific and clinical advice should also be in place. Our response capability would need to be able to channel significant research and development resource to genomics and development of tests, vaccines and therapeutics. A national communications plan would also be needed to increase awareness and encourage good hygiene. Every sector, including but not limited to health and social care, will be affected by the pandemic and will require capabilities to respond.

Recovery

It may take years for recovery to the health and social care sector (due to increased pressure on services throughout the pandemic) and impacts on society, education and the economy may last several years. Recovery from one wave of the pandemic may be hampered by the arrival of a subsequent wave of the same pandemic.

Outbreak of an emerging infectious disease

Emerging infectious diseases include new or newly recognised diseases and could result in large numbers of people falling ill. Some recently emerged diseases, such as Ebola and Middle East Respiratory Syndrome, are classified as High Consequence Infectious Diseases. These are acute infectious diseases that typically have a high case fatality rate and may or may not have effective prophylaxis or treatment and can be difficult to recognise or diagnose rapidly. They require an enhanced individual, population and system response to ensure management is effective, efficient and safe. The UK Health Security Agency and NHS responders have well-tested response capabilities to detect, contain and treat novel infectious diseases.

Scenario

The reasonable worst-case scenario is based on a novel respiratory transmitted virus that emerges zoonotically (from animals to humans) in another country and causes a regional epidemic. This covers diverse virus families, which may acquire some degree of human-to-human transmission, such as influenza viruses, coronaviruses and nipah viruses. However, we must be prepared for a disease spread via any of the 5 main routes of transmission: respiratory, blood (including sexual contact), close contact oral (food and water) and by vectors such as mosquitos. There would be a small number of cases imported into the UK before border measures are applied, which could result in an outbreak of up to 2,000 cases with a case fatality rate of up to 25%. A significant number of contacts, up to 200,000, would need to be traced, isolated or monitored depending on exposure.
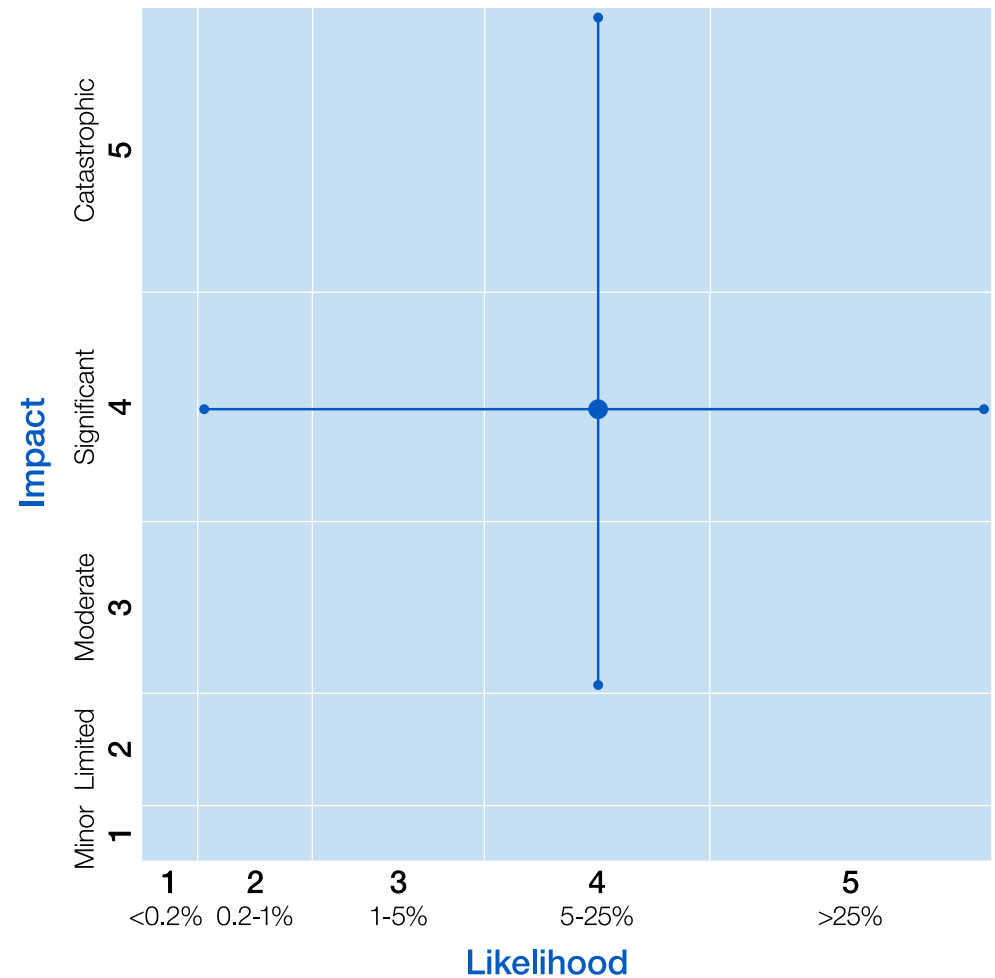
Outbreak of an emerging infectious disease **222**

Non-pharmaceutical interventions, rapid isolation and contact tracing activities would need to follow on from the initial border measures, with limited virus transmissibility bringing the outbreak under control. Failure to contain the outbreak would result in a large epidemic in the UK, or a pandemic.

Key assumptions for this scenario

It is assumed that the novel pathogen causing the epidemic would emerge abroad, with no effective treatment or vaccine. It is assumed that the pathogen would be previously unknown or not normally found within the UK, resulting in a significant outbreak. Infections would be transmitted by the respiratory route, there would be limited human-to-human transmissibility and the outbreak is contained regionally. The outbreak would last between 2 to 6 months. Infected individuals would show identifiable and visible symptoms at the same time as, or preceding, the risk of transmission.

Variations

There are a range of different transmission routes and disease severities, which are reflected in the variations of a viral haemorrhagic fever, vector-borne disease and zoonotic infection.

Response capability requirements

The capability response would be focused on containment (stopping further transmission and reducing cases to zero). This would include the quick implementation of appropriate border measures, with a focus on scalable isolation capabilities, disease surveillance and early detection.

There would be a need for personal protective equipment supplies, scalable diagnostics (both lab and rapid testing) and decontamination services in place to prevent cases from rising. A national communications plan would also be needed to increase awareness and encourage good hygiene. Our response capability would need to be able to channel significant research and development resources to developing tests, vaccines and therapeutics.

Recovery

Long-term impacts would not be understood until several months or up to years later, with possible long-term consequences on the health and social care system.
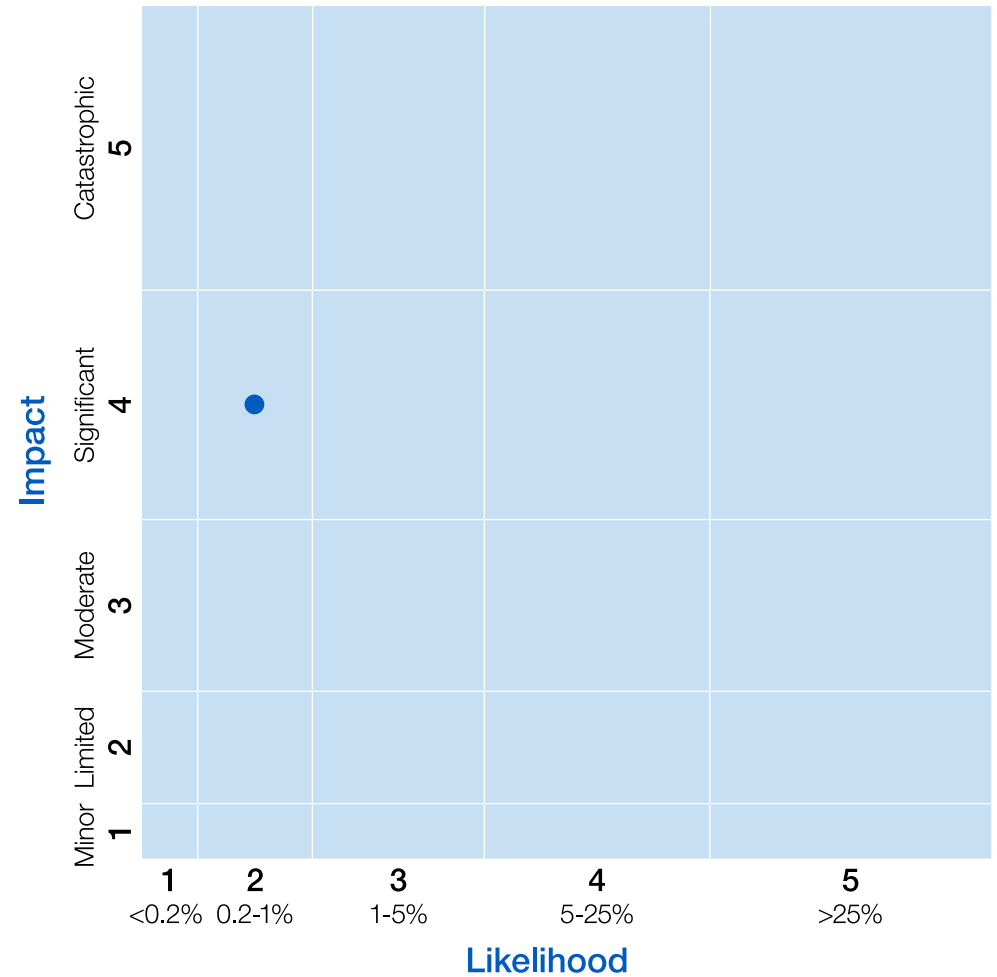
Animal disease: major outbreak of foot and mouth disease

Foot and mouth disease (FMD) is a severe, highly infectious viral disease with significant economic impact, affecting several types of animal including cattle, pigs, sheep, deer and goats. This is spread easily, for example through direct contact with infected animals, with secretions of infected animals, with products of infected animals (meat, milk, hair), clothing, contact with contaminated equipment, vehicles and feed. The last major FMD outbreak in the UK was observed in 2001, which resulted in the culling of over 6 million animals. FMD is a notifiable disease throughout the UK and anyone who suspects disease must immediately report it. The Animal and Plant Health Agency monitors FMD outbreaks internationally and publishes outbreak assessments considering the risk posed to UK livestock on GOV.UK.

Scenario

The reasonable worst-case scenario assumes that FMD is introduced into a sheep-farming area. Infected animals that are not yet exhibiting clinical signs would be sold or moved to other premises before the disease is detected, resulting in multiple geographically dispersed outbreaks. The culling and disposal of approximately 1.9 million animals on over 2,900 premises could be required. This scenario is of much greater scale than the most recent FMD outbreak in 2007, but less than the 2001 outbreak due to improvements to livestock movement regimes and control policies.

Animal disease: major outbreak of foot and mouth disease   224

Key assumptions for this scenario

There is a constant but low risk of an incursion of an exotic notifiable animal disease into the UK. The risk likelihood will vary throughout the year depending on season and disease status and trade status of other countries.

Variations of this scenario

If this scenario were to occur concurrently with another emergency, the scale, impact and duration of the outbreak is likely to increase.

Response capability requirements

Specialist staff would be required to conduct surveillance and dispose of infected animals. These include vets, animal technicians, licensed slaughterers and carcass disposal logistics experts, in addition to sufficient carcass transport, rendering and incineration capacity. Sufficient laboratory capacity to undertake surveillance in all susceptible livestock would also be needed, along with, disease modelling experts, epidemiologists, wildlife experts, administrators and trained policy staff. Local authority staff would be required to conduct enforcement activities, which at the outset and peak of the outbreak could be on a national scale. Sufficient approved personal protective equipment (PPE), respiratory protective equipment (RPE) and approved disinfectant would be necessary across government and operational partners. If a vaccination policy is introduced, stocks of vaccines, capacity to roll out vaccination and additional surveillance would be needed.
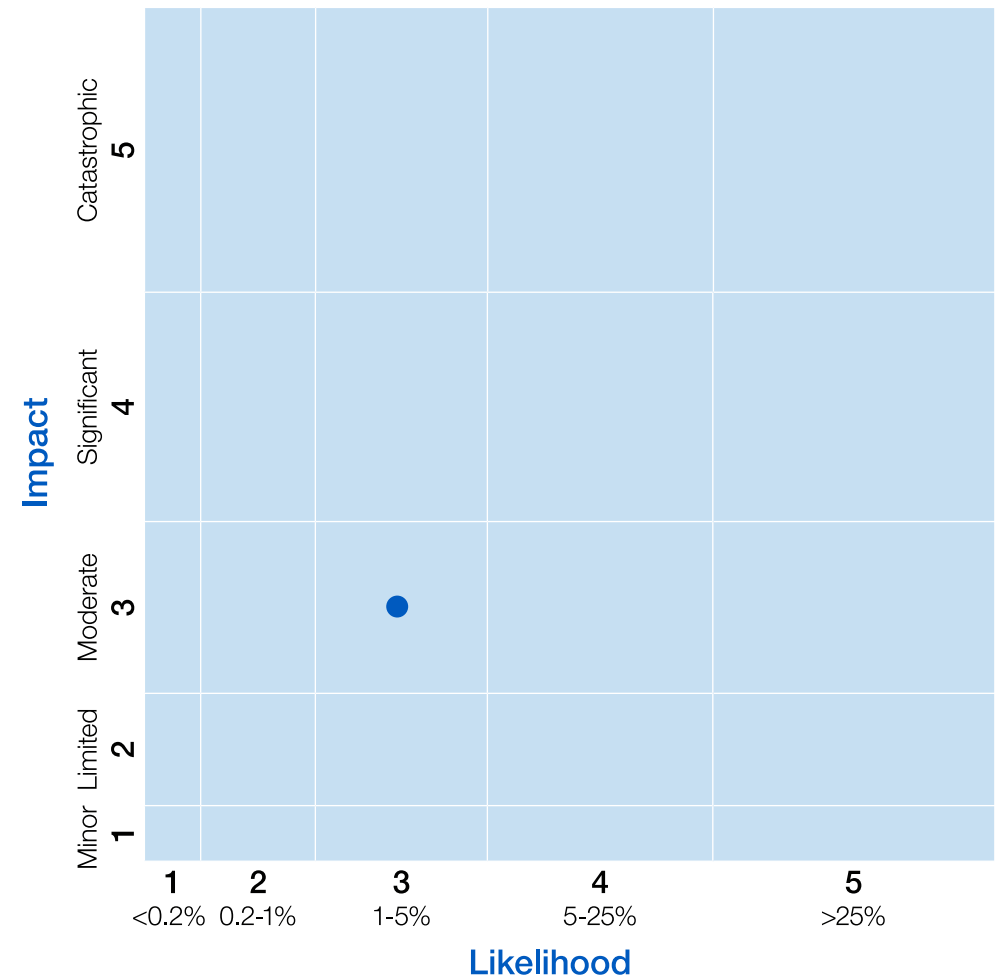
Recovery

For foot and mouth disease, the minimum period to regain country free status for international trade is 3 months from the date of culling and preliminary culling and disposal of the last FMD-infected premises. If vaccination is used, exports can resume no sooner than 3 months after the last vaccinated animal has been culled, or 6 months after the date of last vaccination if a vaccinate-to-live policy is adopted. There would also be long-term impacts on the environment (particularly around burial sites), livestock sector, and rural economy.

Animal disease: major outbreak of highly pathogenic avian influenza

Highly pathogenic avian influenza (HPAI) is a severe, highly infectious influenza causing significant morbidity and mortality in susceptible avian species. Avian influenza is primarily a disease of birds, but can be transmissible to humans through prolonged, direct contact with infected birds or contaminated material. All strains of HPAI are legally notifiable if suspected in the UK, with the biggest outbreak to date being recorded over 2021 to 2023. HPAI is a notifiable disease throughout the UK and anyone who suspects disease in poultry or captive birds must immediately report it. The Animal Plant and Health Agency (APHA) monitors HPAI outbreaks internationally and publishes outbreak assessments considering the risk posed to the UK livestock on GOV.UK.

Scenario

The reasonable worst-case scenario is based on an outbreak of a highly virulent strain of HPAI that is unlikely to transmit easily to humans. Disease would be introduced into multiple large-scale poultry businesses, through direct or indirect contact with wild birds. Viral spread from both wild birds and between infected premises occurs, leading to an outbreak of 250 large commercial premises in a 6- to 8-month period. About 8 million poultry and captive birds would either be killed by the virus or culled for disease control, and there would be restrictions on trade and exports. Multiple mass-die-off events in wild-bird populations are likely.

Impact axis: 1 Minor / Limited, 2, 3 Moderate, 4 Significant, 5 Catastrophic

Likelihood axis: 1 <0.2%, 2 0.2-1%, 3 1-5%, 4 5-25%, 5 >25%

Plotted point at Likelihood 3, Impact 3.

Animal disease: major outbreak of highly pathogenic avian influenza   **226**

Key assumptions for this scenario

For a strain of HPAI readily transmissible to humans, the public health impact would be handled by the Department for Health and Social Care (DHSC). However, occasional spill-over to humans cannot be ruled out and therefore the local health protection teams would be involved in following up human contacts with each new infected establishment.

Variations of this scenario

A virus strain with potential for transmission to mammals or humans could prolong the outbreak, complicate disease control and impact those with close occupational or disease response contact to infected birds or mammals. There would be increased impact on essential services and food safety. For strains causing severe disease in humans, casualties and fatalities could be expected. Disease control measures would need to be adapted to manage the public health risks, with further measures to protect food safety and essential services. The public health impact would be handled by DHSC.

Response capability requirements

Specialist staff including vets, poultry catchers and staff to complete culling, disposal and cleansing and disinfection would be required, along with sufficient transport capacity and access to rendering or incineration. In addition, sufficient laboratory capacity is needed for diagnostic and monitoring purposes; local authority staff to conduct enforcement activities; and modelling experts, epidemiologists, disease experts, wildlife experts, administrators and trained policy staff to support would be needed. Sufficient personal protective equipment (PPE), respiratory protective equipment (RPE) and approved disinfectant would also be necessary across government and operational partners.

Recovery

The minimum period to regain regional disease-free status for international trade is a minimum of 28 days from completion of secondary culling and disposal at the last infected premises. Exports to the EU can resume following the completion of enhanced surveillance in the restricted region, usually no less than 30 days after effective culling and disposal of all infected premises in the region. Third-country exports will depend on the relevant bilateral trade agreements. Given the size and duration of this scenario, there would be long-term impacts on trade, the environment, poultry sector, and rural economy.

Animal disease: major outbreak of African horse sickness

African horse sickness (AHS) is a vector-borne animal disease that is spread by midges and affects horses, donkeys, zebras and mules. It does not affect humans but can be fatal in 90% of the horses, donkeys and mules that it infects. There have been no cases of AHS in the UK to date, with the majority of outbreaks occurring in Sub-Saharan Africa where the zebra acts as a reservoir. However, cases have also been detected in countries such as Spain, Portugal, Thailand, India and Pakistan. AHS is a notifiable disease throughout the UK and anyone who suspects disease must immediately report it. The Animal and Plant Health Agency monitors AHS outbreaks internationally and publishes outbreak assessments considering the risk posed to the UK animals on GOV.UK. The UK's strict trade rules are the most important risk mitigation measure.

Scenario

The reasonable worst-case scenario assumes that an AHS infected horse is imported into the UK and bitten by midges, which would carry the virus to other horses. Although the infected horse will probably die within a few days it would not be necessarily suspected by the owner and samples may not be submitted to the reference laboratory at The Pirbright Institute. By the time the virus is identified, it would be well established in geographically dispersed midge populations around the UK. Control measures include movement restrictions, culling of infected horses and may include preventive vaccination.
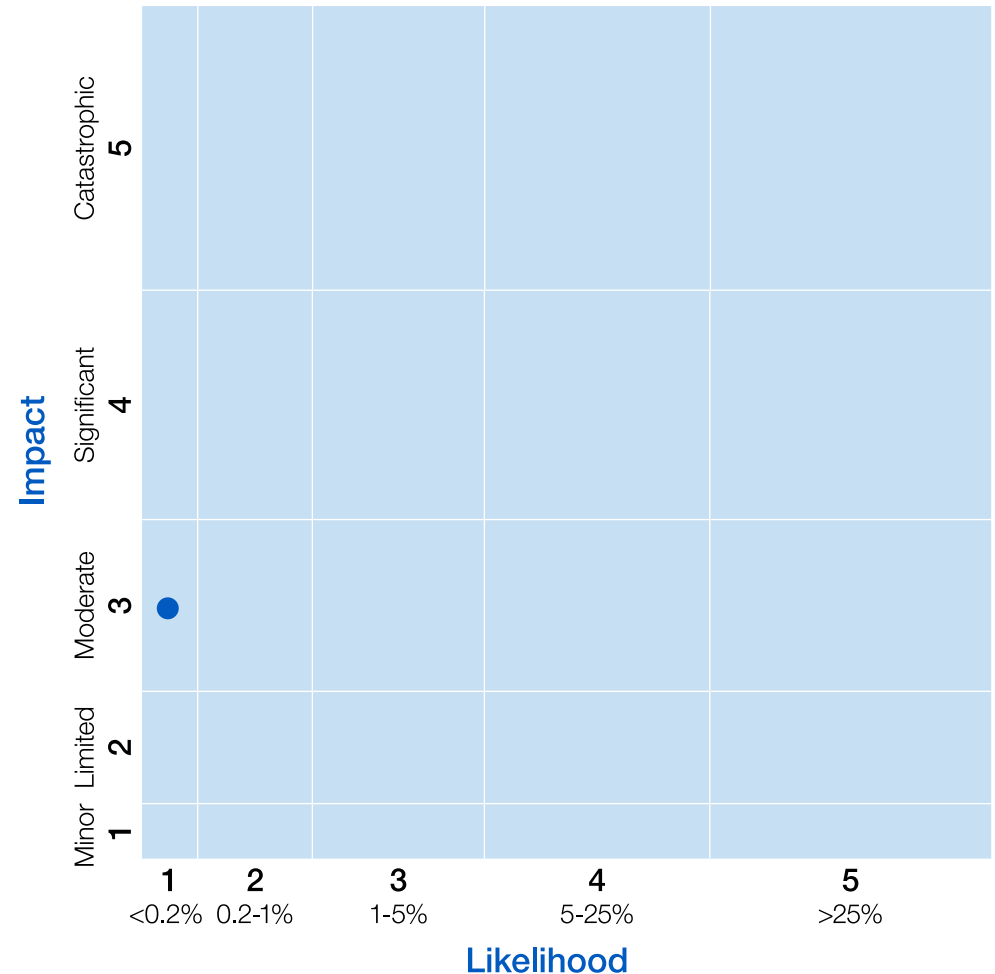
The restriction zones for AHS are very large, up to 150km radius, because of the movement of infected midges. The outbreak would last for a minimum of 6 months (depending on the season and the presence of midges) and result in long-lasting trade restrictions, affecting the international movement of equine animals and a range of very high-value commodities. The likelihood and impacts of an outbreak of AHS continue to be assessed.

Key assumptions for this scenario

It is assumed that a horse infected with a low- to medium pathogenicity strain of AHS is imported into England in early spring (April) and is bitten by midges at the beginning of the midge season. The disease would replicate undetected in midge populations and spread to equine animals. Sporadic illness and deaths in infected horses may not be attributed to AHS for the first few weeks, allowing for a period of undetected spread as horses are moved around the country, facilitating a wider geographic dispersal of the disease.

Variations of this scenario

If the outbreak occurred at a time of increased global demand for AHS vaccine, the control strategy may be reliant on vector controls for midges and an increase in culling until vaccines become available.

Response capability requirements

Specialist staff including equine vets (who may be private vets), animal technicians, licensed slaughterers, and carcass disposal personnel would be required to conduct surveillance and dispose of infected animals. In addition: sufficient laboratory capacity to monitor the situation, local authority staff to conduct enforcement activities, modelling experts, epidemiologists, wildlife experts, entomologists, administrative staff and trained policy staff to support, would be needed. Some parts of the horse-owning sector are difficult to reach and additional specialists may be needed. Sufficient approved personal protective equipment (PPE) and approved disinfectant would be necessary across government and operational partners.

Recovery

The minimum period to regain country-free status for international trade is 2 years from the last confirmed outbreak. Any trade permitted to continue would be subject to rigorous health certification and restrictions. During the outbreak, movement restrictions would have a devastating impact on the horse racing and breeding sector, and rare populations of wild ponies could be severely impacted. The rural economy would also suffer heavy losses.

Animal disease: major outbreak of African swine fever

African swine fever (ASF) is a highly contagious haemorrhagic viral disease that affects pigs and wild boar but does not infect humans. It can be spread by direct contact with infected live or dead pigs, their secretions, pork products, contaminated feed, and non-living objects such as shoes, clothes and vehicles. The only control options are culling and movement restrictions; there is no vaccine or antiviral therapy available. Although no cases of ASF have been reported in the UK, the virus is currently spreading in Europe, Asia and Africa. ASF is a notifiable disease throughout the UK and anyone who suspects disease must immediately report it. The Animal and Plant Health Agency monitors ASF outbreaks internationally and publishes outbreak assessments considering the risk posed to the UK animals on GOV.UK.

Scenario

The reasonable worst-case scenario is based on an incursion of an acute strain of ASF into a feral pig population in England, which spreads before detection to domestic and commercial pig farms. Acute forms of ASF are highly pathogenic and have case fatality rates as high as 100%, but the virus remains stable in the environment for several weeks and in frozen products such as meat for many months. Feral pigs are only found in some areas of England, Scotland and Wales. The outbreak in kept pigs could last for about 16 weeks, with restrictions on exports remaining in place for a minimum of 9 months following the last confirmed infection. The outbreak in feral pigs could persist for up to 70 weeks. However, the scale of this scenario continues to be assessed.
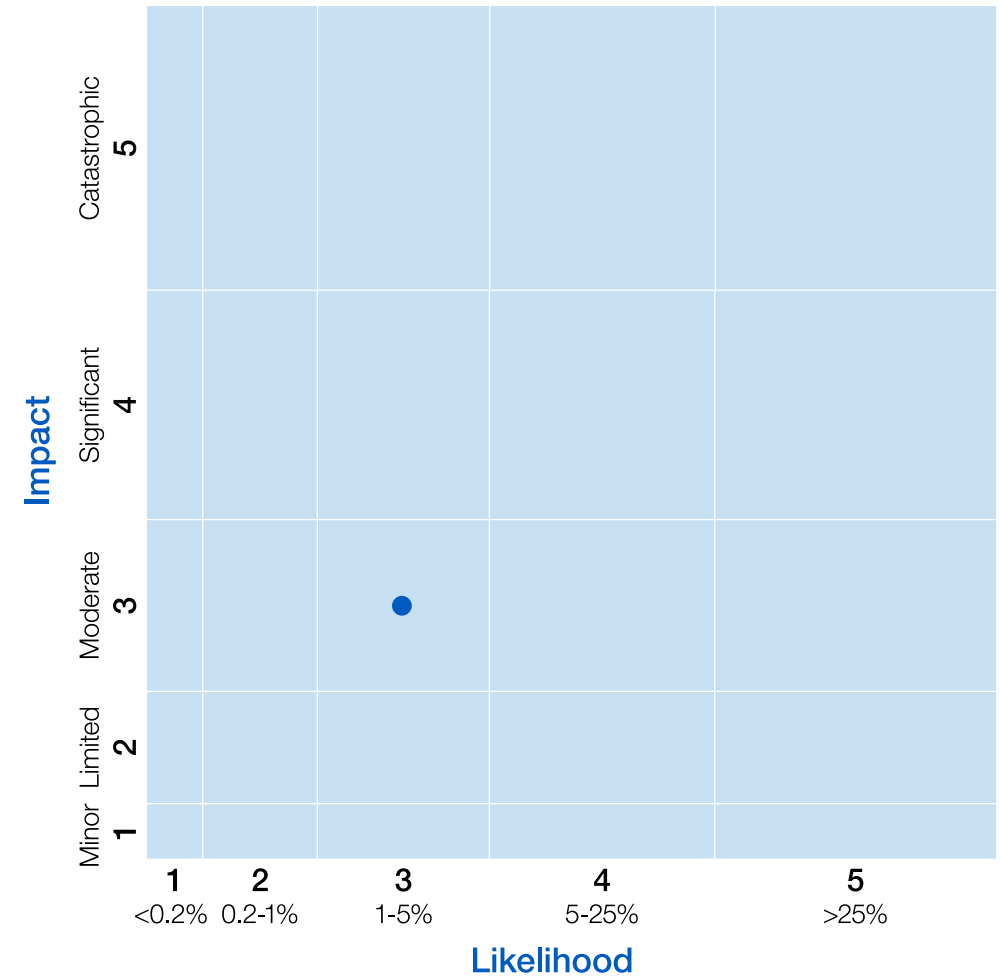
Animal disease: major outbreak of African swine fever

Key assumptions for this scenario

The scenario is based on an outbreak of ASF strain that causes acute infection. Disease would begin by spreading undetected through the feral pig population until it reaches nearby domestic pig farms. The incursion into a commercial pig farm is assumed to be human mediated.

Variations of this scenario

Some strains of ASF produce less intense clinical signs that can be expressed for much longer periods. Case fatality rates are lower but can still range from 30-70%. An outbreak of such a strain of ASF would affect the impact and duration.

Response capability requirements

Specialist staff would be required to conduct surveillance and dispose of infected animals. These include vets, wildlife experts and marksmen, licensed slaughterers and carcass disposal logistics experts, in addition to carcass transport, rendering and incineration. Sufficient laboratory capacity to undertake surveillance in susceptible species would be needed, along with local authority staff to conduct enforcement activities, modelling experts, epidemiologists, disease experts, administrative staff and trained policy staff. Sufficient personal protective equipment (PPE), sample kits and approved disinfectant would be necessary across government and operational partners.

Recovery

For captive pigs, the minimum period to regain ASF Country-Free Status for international trade is 3 months after cleansing and disinfection of the last infected premises. In feral pigs, the minimum period to recover ASF free status is 12 months. It is expected that some of our trading partners would implement national export bans upon confirmation of ASF in captive or feral pigs.
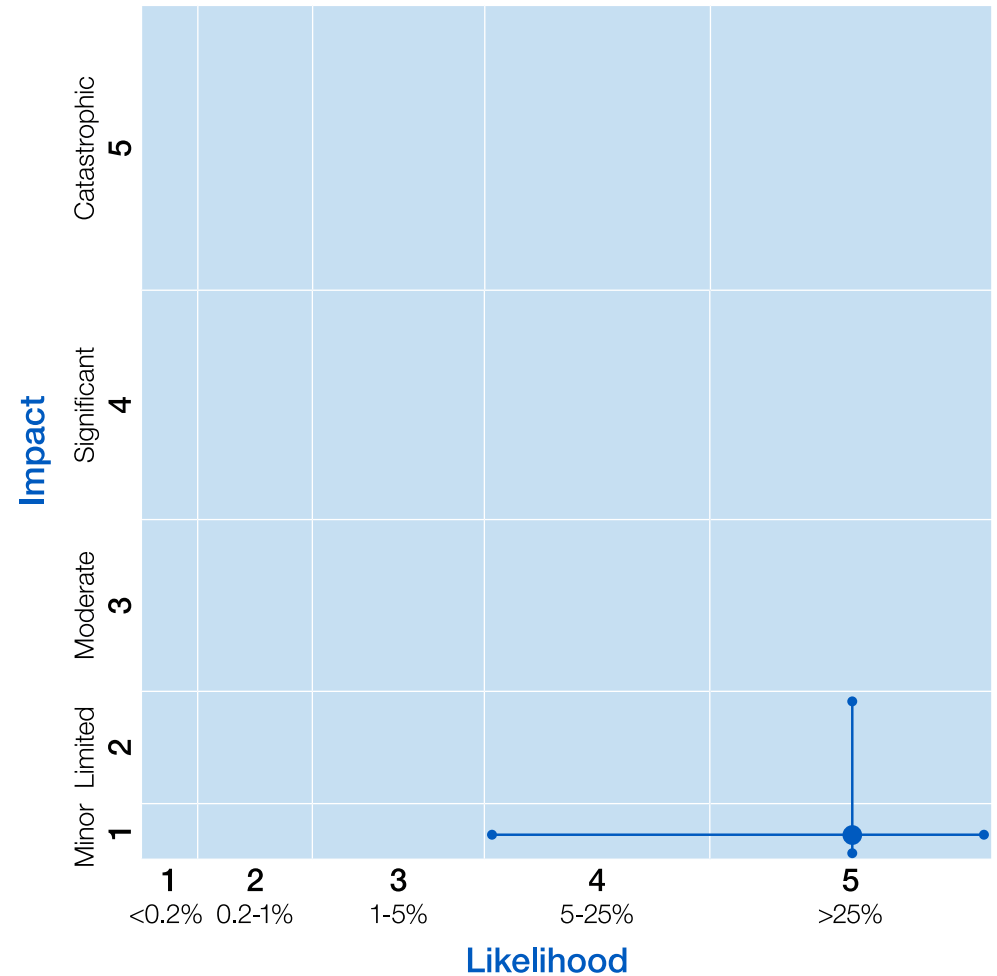
Major outbreak of plant pest: *Xylella fastidiosa*

Xylella fastidiosa is a bacterium that is responsible for causing a number of named plant diseases. It was first detected in Europe in 2013 and is now established in France, Italy, Portugal and Spain. The bacterium has been reported from a very wide range of hosts, and the number of plant species that have been shown to be infected is constantly increasing. Legislation has been updated to prevent the introduction of *X. fastidiosa* on certain hosts, such as olive and rosemary, which are considered to be highly susceptible to the bacterium. The Animal and Plant Health Agency and Forestry Commission also carry out annual surveillance for *X. fastidiosa*.

Scenario

The reasonable worst-case scenario is based on an outbreak of Xylella in an area containing 3 to 5 plant nurseries, with evidence of possible spread on plants and plant products to multiple premises across the UK. While it is difficult to quantify the costs associated with Xylella impacting plant nurseries, there could be moderate economic costs relating to lost working hours, lost stock and restrictions on trade (estimated to be over £7.5 million for 5 nurseries over 5 years). The cost of government intervention, including surveillance, is estimated to be £5 million over 5 years. In the short term, measures to remove plant species may impact air quality (through the burning of material) and water quality (through the use of herbicides and insecticides).

Major outbreak of plant pest: Xylella fastidiosa

Key assumptions for this scenario

It is assumed that if multiple outbreaks or outbreaks of other pests occur simultaneously, these would drain resources and likely mean that increased levels of impacts are seen.

Variations of this scenario

A high-impact variation involves the bacterium being found in an area with large plant nurseries reliant on growing host plants of Xylella. The nurseries would be significantly impacted due to the scale of eradication needed. The risk could be compounded if a coordinated approach to mass testing between Northern Ireland and Great Britain is hampered, during the period where future arrangements for laboratory accreditation schemes and mutual recognition are being developed, following the UK's exit from the EU.

Response capability requirements

Surveillance to monitor the spread of the bacterium, capabilities to diagnose the pest and procedures to report suspected cases would be required. In addition, the removal and disposal of infected and suspect plants, and the application of pesticides by registered spray operators to control vectors of the bacterium, would be necessary.

Recovery

Depending on the situation, businesses such as garden centres and nurseries may be able to recover after a short period, whereas others may need longer or may never recover.

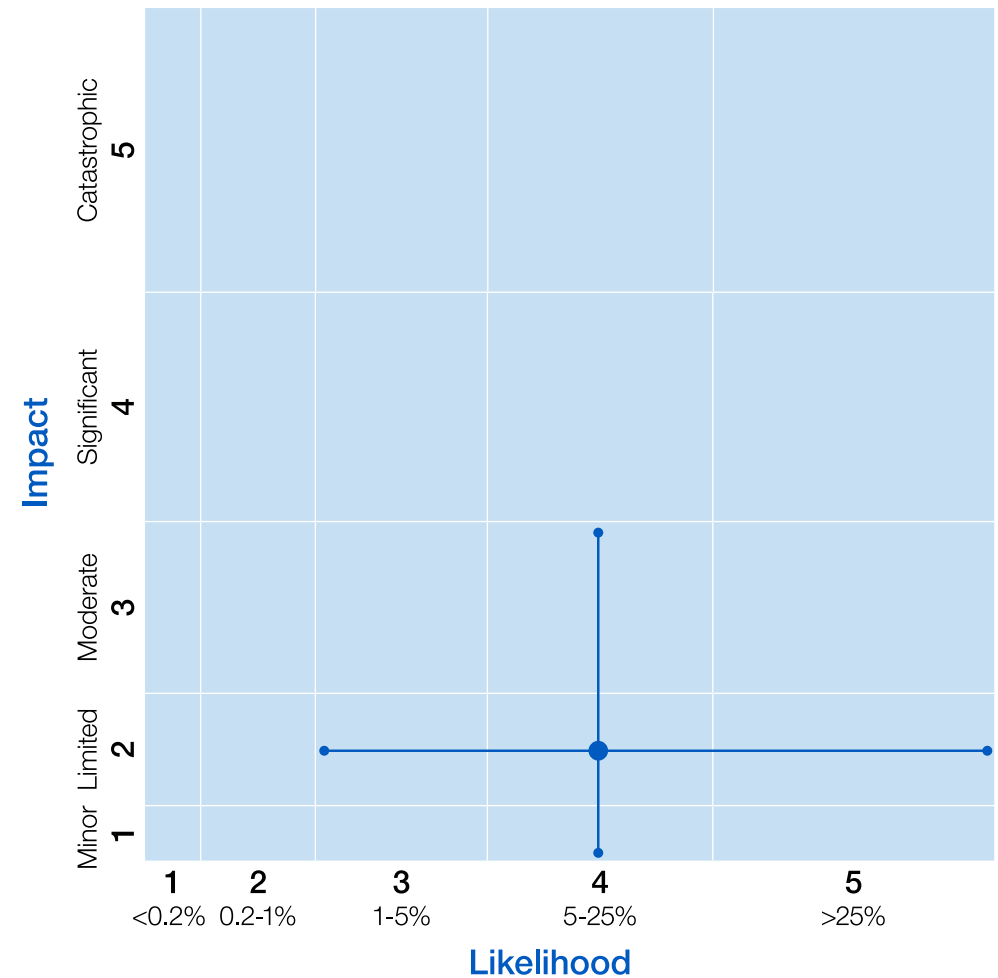# Major outbreak of plant pest: *Agrilus planipennis*

Larvae of the emerald ash borer beetle (*Agrilus planipennis*) bore into the inner bark and outer sapwood of ash trees, weakening the trees and causing them to die. There have been no previous outbreaks in the UK, but as the beetle spreads across Europe, there is an increasing likelihood that it will enter the country. This would result in significant damage to both the environment and economy. Import restrictions have been introduced to mitigate the risk of entry on host plants, host wood, wood chips and bark. The Forestry Commission also carries out annual surveillance for the beetle.

Scenario

The reasonable worst-case scenario is based on an outbreak in a mature, mixed woodland, which has remained undetected for 5 years. Initial surveillance would show that the beetle has spread beyond a 100x100m area, with the spread having occurred over multiple other sites. The beetle would have been present at these sites for 2 years. Damage could be partially reversed through the replanting of trees, although this is likely to have significant economic costs. The economic cost of the outbreaks could be over a billion pounds in environmental losses from impacts on air quality, biodiversity loss and carbon release (from burning).

Key assumptions for this scenario

It is assumed that the beetles would remain undetected for a long period of time, meaning that they spread a significant distance and cannot be eradicated. It is also assumed that resources would be drained if multiple outbreaks or outbreaks of other pests occurred simultaneously, with increased levels of impacts being seen.

Major outbreak of plant pest: Agrilus planipennis

Variations of this scenario

A high-impact variation involves a beetle found in southern England (with a more favourable, warm climate with ash trees within flight distance), allowing the beetle to spread further and impact a wider area. In comparison, an outbreak of the beetle in Scotland, which has a less favourable climate, will not grow as quickly and would have lower impacts on ash trees.

Response capability requirements

Surveillance to monitor the spread of the beetle, capabilities to diagnose the pest and procedures to report suspected cases would be needed. Additionally, capability to destroy the worst-affected trees would be required, including tree-felling services to remove seriously damaged trees and dispose of them via chipping or incineration. Response capabilities also include research and development to improve detection and management methods, including research to approve biological control agents.

Recovery

It is likely that the majority of ash trees would be impacted. However, there are some long-term management options that could be introduced to reduce the impact of the beetle, including chemical trunk injections for valuable trees and the release of biological control agents that parasitise the beetle. Where ash trees have been killed, replanting with resistant ash species (if identified) or other tree species would be possible, although regeneration could take many years.

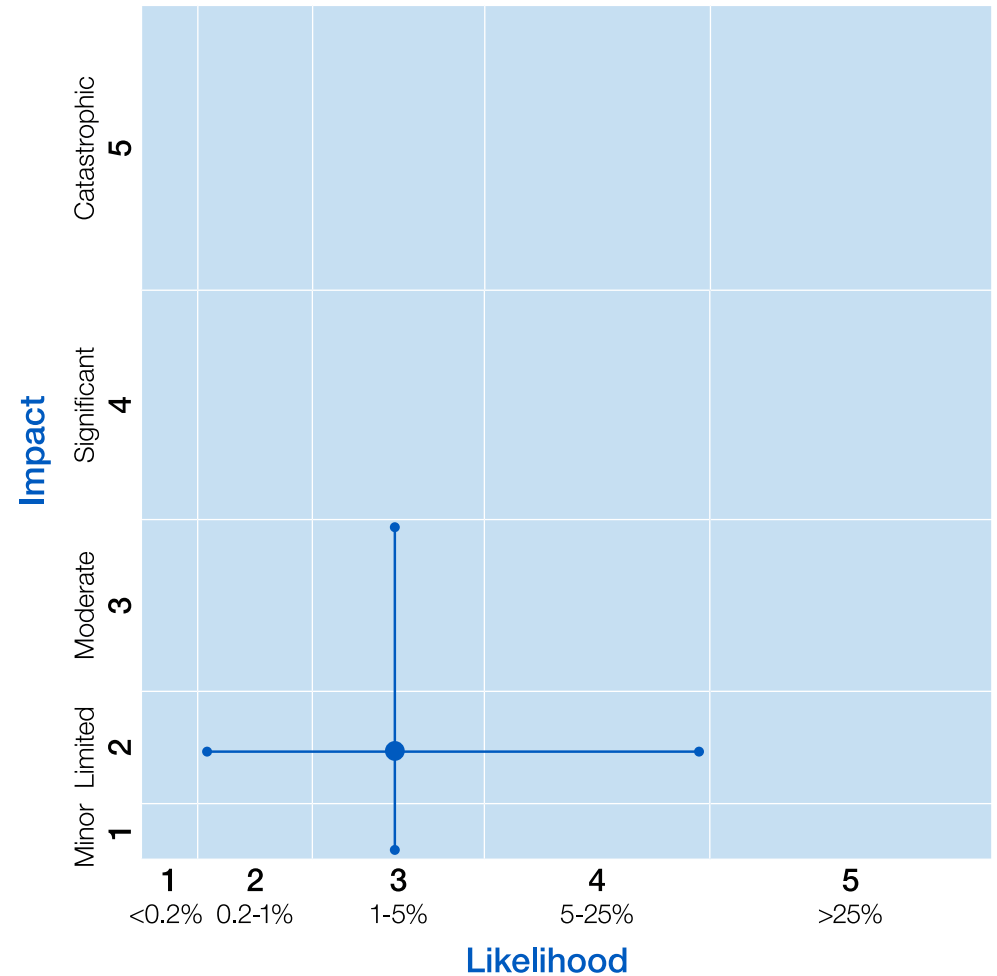# Societal

236

Public disorder

Public disorder is a highly unpredictable risk. Although the majority of protests in the UK remain peaceful, on rare occasions these events can escalate towards conflict. The primary driver may be long-standing grievances, or it could occur as a spontaneous response to a single incident. Peaceful protests are not considered a form of public disorder, and the right to protest is enshrined in UK law.

Scenario

The reasonable worst-case scenario is based on large-scale disorder that significantly impacts the emergency services and government. In this scenario there is criminal damage to public and private property, increased acquisitive crime, arson, rioting, looting and reduced community cohesion. Injuries would be expected to both members of the public and those involved in the emergency services response. There would be a risk of fatalities, with health services coming under increased pressure. There may also be reduced confidence in the police and government.

Key assumptions for this scenario

It is assumed that there may be a number of specific trigger or flash points, which would lead to localised disorder across urban locations, simultaneously or sequentially.

Agenda (a) / CFI(a) - National_Risk_Register_2025.pdf

Back to Agenda

Chapter 4

Societal

Public disorder

237

Variations of this scenario

A more impactful variation is large-scale disorder breaking out at multiple sites across large parts of the UK, which could stretch police resources. A less impactful variation would be large-scale disorder breaking out in a single large city or region in the UK.

Response capability requirements

Key response capabilities could include police support units, evidence gathering teams, custody, mounted police and baton rounds.

Recovery

There would be long-term consequences on the economy – especially in areas that are already experiencing an economic downturn.

Industrial action

Industrial action happens when trade union members are in a dispute with their employers that cannot be solved through negotiations. It can take the form of a strike where workers withdraw their labour for a period of time, or action short of strike such as a work to rule. Both forms of action can lead to disruption affecting critical services or infrastructure. In order for industrial action to be legal, there are a number of conditions set out in the Trade Unions and Labour Relations (Consolidation) Act 1992, as amended by the Trade Union Act (2016). These conditions are that there must be a trade dispute between the union and the direct employer, the union must notify the employer of its intention to ballot for industrial action, that the ballot is conducted by post overseen by an independent scrutineer, and that the union notify the outcome of the ballot and intended strike dates to the employer in advance.

The impact and likelihood of industrial action varies across different organisations in both the public and private sector and is typically a reflection of the industrial relations landscape within organisations. Unofficial or wildcat action is possible, where workers take action having not complied with the law governing industrial action or where action is taken by workers without the right to take action, such as prison officers. Such instances are rare, as the workers taking unofficial or wildcat action expose themselves to summary dismissal by the employer without recourse to an employment tribunal.

The Civil Contingencies Act (2004) places a duty on certain organisations to have in place plans for maintaining key services in the event of significant workplace absences including strikes. Other critical sectors also have comprehensive plans in place.

Scenario

The reasonable worst-case scenarios for industrial action are based on action being taken by a significant number of staff and/or staff in critical roles taking action over a prolonged period. In disrupting an organisation's ability to function normally, industrial action can lead to temporary closures of sites, reductions in the availability of key services with impacts ranging from inconvenience and frustration to severe risk to welfare and safety. Services might continue, but at a reduced capacity during a strike period. The disruption could lead to economic consequences.

Key assumptions for this scenario

Different assumptions apply to industrial action in different sectors. For some sectors, the risk of industrial action has increased, due to external factors such economic pressures or changes to working conditions and other organisational changes. This is heightened by ongoing pay restraint in the context of inflation. Having a comprehensive engagement framework with recognised trade unions is an essential enabler to early dispute resolution and to averting industrial action. Depending on scale or duration of the strike pattern, industrial action can lead to disruption at the regional or national level.

Variations of this scenario

Alternative scenarios include long periods of discontinuous industrial action and strike action by different groups of staff within the sector. Events may be localised or national, and the duration could vary significantly, which would impact the response. The duration of strike action can also be affected by the union's agreement to, and ability to, offer strike pay to compensate striking workers for their loss of pay. Other factors that would exacerbate the impact of a strike include ongoing short- or long-term incidents or challenges.

Response capability requirements

Organisational resilience to industrial action varies by organisation and is typically a product of an organisation's reliance on workers with special knowledge or skills, access to contingency labour and, to some extent, the ability to agree derogations to protect critical services during periods of strike action. Appropriate contingency arrangements are enacted while the matter is resolved and operators are required to maintain plans for business continuity. Wherever possible, the government encourages negotiation and mediation, such as via the Advisory, Conciliation and Arbitration Service, as a means of resolving industrial action both before and during a strike.

Recovery

Recovery is dependent on the sector and the duration and extent of the action, however for the majority of situations it is likely to be swift. There could be broader implications for relationships between staff and employers, and between striking and non-striking staff.

This risk is featured in the full matrix on page 16. The average impact score for risks grouped under the Industrial action category is 2 (limited) and the average likelihood score is 3 (1-5%).

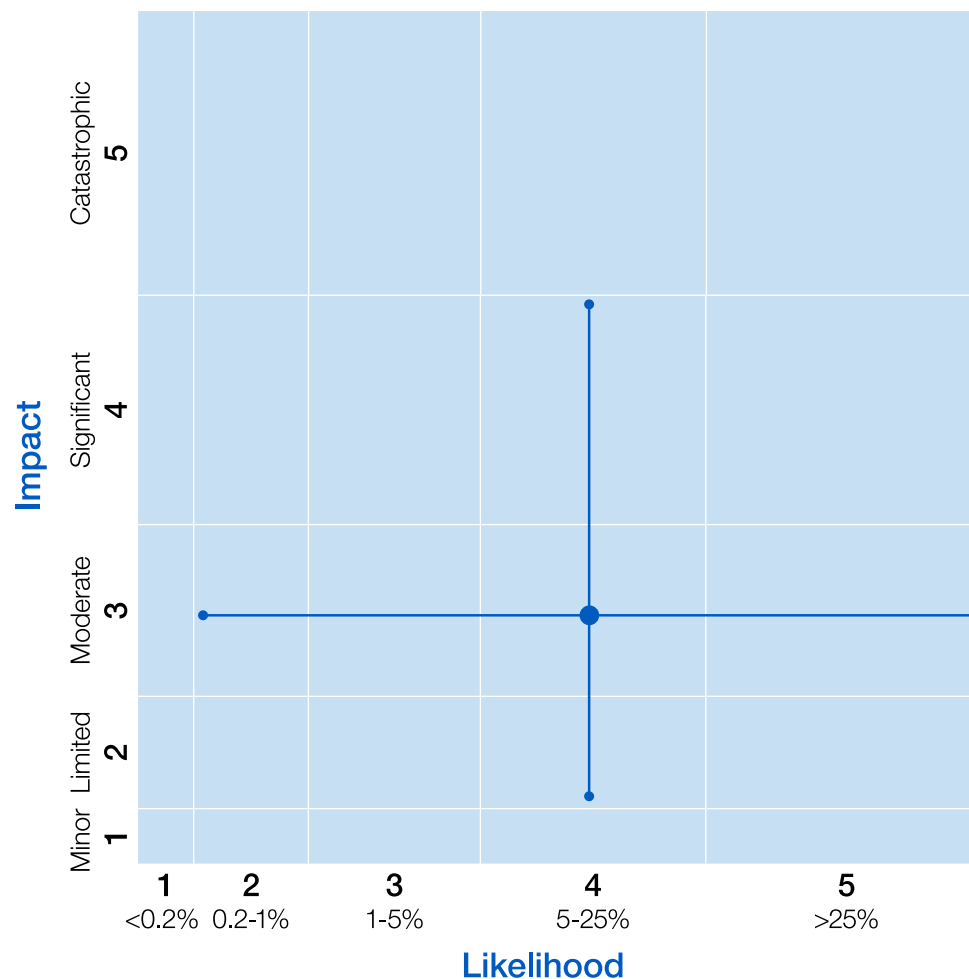# Reception and integration of British Nationals arriving from overseas

A significant proportion of British nationals (BNs) reside abroad, with approximately 5.5 million BNs estimated to live overseas. An adverse event in another country, such as a terrorist attack, conflict or disaster, may result in a sudden influx of BNs returning to the UK.

Scenario

The reasonable worst-case scenario assumes a large number of destitute or vulnerable BNs and their dependents arriving from overseas following an emergency/crisis overseas. This is likely to occur within a 3 to 4 week period, requiring reception services and integration support. These BN arrivals may not be normally resident in the UK and do not have accommodation options of their own. There may be a small number of deaths and injured BNs because of the overseas emergency/crisis.

Key assumptions for this scenario

It is assumed that BNs would seek to enter the UK as opposed to another country, with minimal notice. Identification of the scale of support, or the exact types of support, required may not be possible until the BNs arrival into the UK. Government support and funding may be required for local authorities and other agencies to assist with response and recovery.

Response capability requirements

The circumstances of departure may mean that support services are required on arrival for those who are vulnerable or destitute. Local authorities (in conjunction with other agencies and the voluntary sector) will lead on the provision of support packages for arrivals. This could include support at airports or arrival locations (such as food, water, clothing and medicines), and emergency shelter or temporary accommodation as part of the immediate response.

Recovery

A long-term integration package may need to be provided (including engagement with other agencies and the voluntary sector). This would include access to accommodation, welfare, employment assistance, education, and health services. Specialist services, including psychological, safeguarding and victim support, may also be needed.
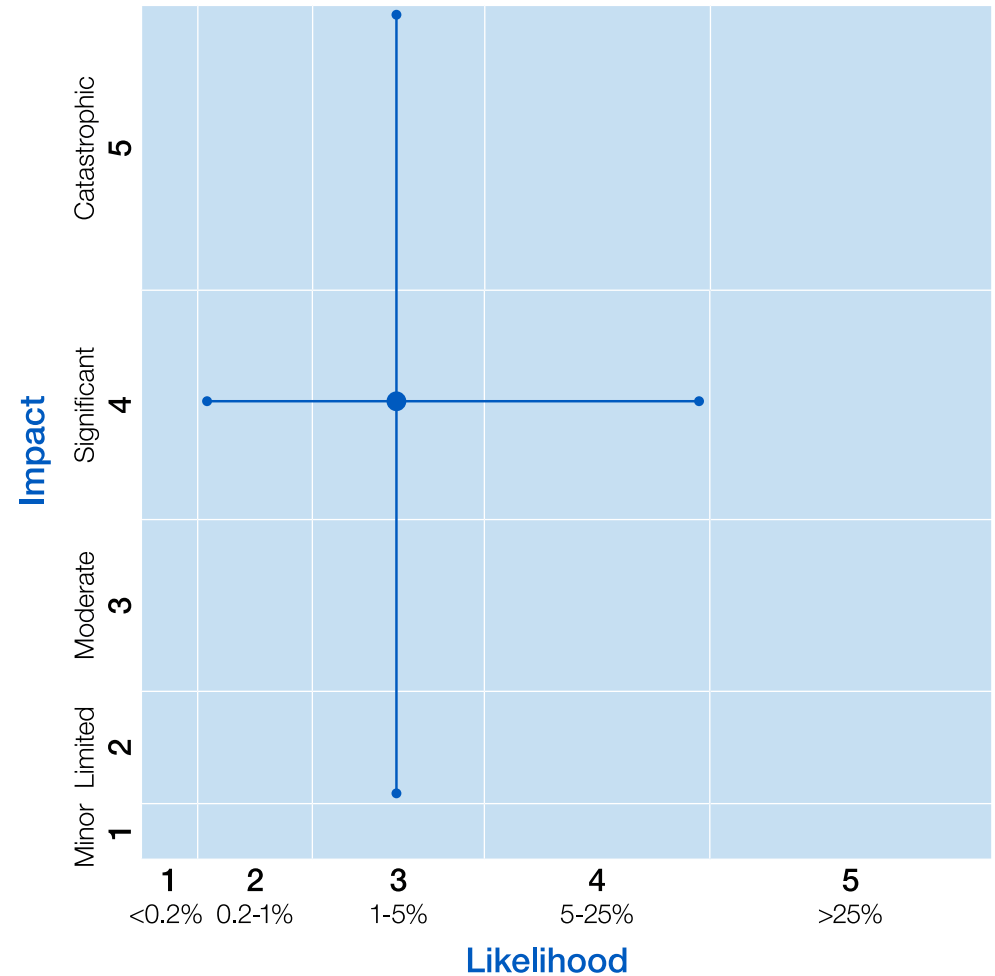
Conflict and instability

243

Deliberate disruption of UK space systems and space-based services

The UK relies on a broad range of space capabilities every day. These include infrastructure in orbit and on the ground, the people that operate it, and the applications and services that run on it. Secure global communications are key to our ability to protect and defend and support high-speed connectivity to remote and rural communities. Satellite-derived position, navigation and timing signals underpin services such as banking and transportation, as well as almost all the UK's critical national infrastructure (including energy, emergency services and healthcare) and defence operations. Space capabilities are already central to many basic and safety critical civil functions, and this dependency on space will only increase.

Scenario

The reasonable worst-case scenario is based on an attack on UK or allied space-based systems or services by a hostile state or a proxy. The attack would aim to further their economic, political or military objectives, while attempting to reduce the risk of attribution. There would be immediate and longer-term impacts on UK space systems and services, resulting in severe disruption to essential services downstream. These could include food and water, and financial market infrastructure and communications (both voice and data services).

Impact (y-axis): 1 Minor / Limited, 2 Limited, 3 Moderate, 4 Significant, 5 Catastrophic. Likelihood (x-axis): 1 <0.2%, 2 0.2-1%, 3 1-5%, 4 5-25%, 5 >25%. Central point plotted at Likelihood 3, Impact 4.

Deliberate disruption of UK space systems and space-based services

Response capability requirements

Response capability requirements would depend on the attack method and how it impacted space-based infrastructure, ground based facilities and essential radio frequency links. Cyber security measures, counter-jamming technology and interference detection capabilities could help to protect against an electronic attack. Space domain awareness would support attack attribution and impact assessment. The continued development of highly secure and resilient space-based services would reduce the potential impact to the UK's most critical defence and security functions. Collaboration with international partners offers further opportunities to enhance the overall resilience of our collective space capabilities. We should also exploit the potential offered by alternative infrastructure and service solutions (such as terrestrial-based navigation and timing systems).

Recovery

Recovery timelines would depend on the attack method and how it impacted space-based infrastructure, ground-based facilities and essential radio frequency links. For temporary and reversible disruption to space assets, recovery timelines could be measured in minutes. However, a permanently damaged satellite could take years to replace.

Attack on a UK ally or partner outside NATO or a mutual security agreement requiring international assistance

Scenario

The reasonable worst-case scenario for this risk involves an adversary state with a large, advanced military conducting a major air and land assault on a non-North Atlantic Treaty Organization (NATO) security partner of the UK. The partner state suffers mass military and civilian casualties and a refugee crisis develops. Although the scenario is not UK based, there are likely to be British Nationals involved and humanitarian assistance will be required.

Response capability requirement

To contain aggression and deter further aggression from an adversary state, military, diplomatic and economic (sanctions) capabilities will be needed.

Recovery

This event would result in impacts lasting several years. Economically, the disruption to global markets (depending on the location) could be impacted by disruption of supply chains, reduction or prevention of fuels (gas and oil) and global economic instability.
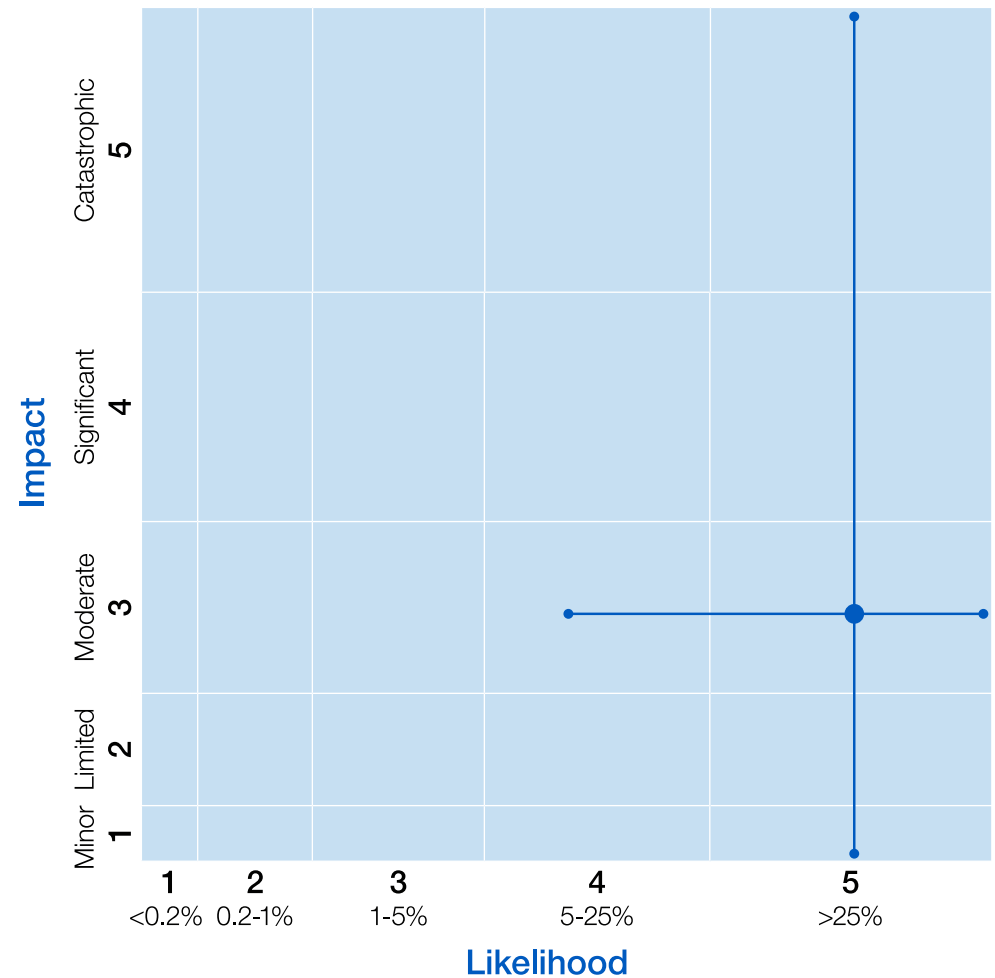
Attack against a NATO ally or UK deployed forces, which meets the Article 5 threshold

The North Atlantic Treaty Organization's (NATO) purpose is to guarantee the freedom and security of its members through political and military means. NATO is committed to the principle that an attack on one or several of its members is considered as an attack on all. This is the principle of collective defence, which is enshrined in Article 5 of the Washington Treaty. So far, Article 5 has only been invoked once, in response to the September 11th terrorist attack in the US in 2001.

Scenario

The reasonable worst-case scenario involves a hostile state launching an invasion of a NATO ally or an attack on UK deployed forces, which causes NATO allies to unanimously invoke Article 5 of the Washington Treaty. NATO activates its response plans but hostile state forces are not ejected and the crisis continues. There is disruption to UK and European economies as economic ties with the hostile state are severed. There would be large numbers of casualties and fatalities. Although the scenario is not UK based, there are likely to be some British Nationals involved. Depending on the region where the crisis occurs, there could be severe disruption to gas supplies.

Response capability requirements

This would require a full range of military, diplomatic, economic and information capabilities to contain aggression and deter further aggression.

Recovery

This event would result in impacts lasting several years. Economically, the disruption to global markets (depending on the location) could be impacted by disruption of supply chains, reduction or prevention of fuels (gas and oil) and global economic instability.

Conventional attack on the UK mainland or overseas territories[2]

Protection of the UK, its citizens, property, and territory, from adversarial states, remains one of the highest priorities of the government. This defence and security protection extends to UK overseas territories and crown dependencies. NATO provides the backbone of the UK's collective defence within the Euro-Atlantic, however sovereign options are required to support overseas territories that may fall below the NATO Article 5 threshold.

Scenario

The reasonable worst-case scenario of this risk involves an adversary nation attacking the UK mainland or overseas territories using a combination of conventional missiles and cyber operations. For this scenario, targets are related to infrastructure. Although no population centres are deliberately targeted, a successful attack is likely to result in civilian fatalities as well as members of the emergency services. The economic costs of such a scenario would be high, as well as significant impacts to essential services.

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2 A separate scenario involving a nuclear attack on the UK mainland or UK overseas interests exists and is held at a higher classification.

Nuclear miscalculation not involving the UK or its allies

Nuclear miscalculation refers to the risk that a state will mistakenly understand the intentions of another state and respond by launching a nuclear strike. The UK works within the Non-Proliferation Treaty to stop the spread of nuclear weapons, promote cooperation and advance nuclear disarmament. The UK does everything it can to promote diplomatic solutions to every conflict.

Scenario

The reasonable worst-case scenario for this risk involves a limited nuclear conflict between two states that does not involve the UK. The impacts in the affected area would depend on factors such as the size of the yield of the weapon, location and the local population, particularly in terms of numbers of casualties and fatalities. There would likely be implications for UK businesses with direct or indirect ties to the affected region, given the potential for economic disruption. British Nationals in the region would require support. There would be the potential for high levels of migration from the affected region, increasing pressure on infrastructure. An increase in community tensions involving diaspora from the affected region who reside in the UK is possible.
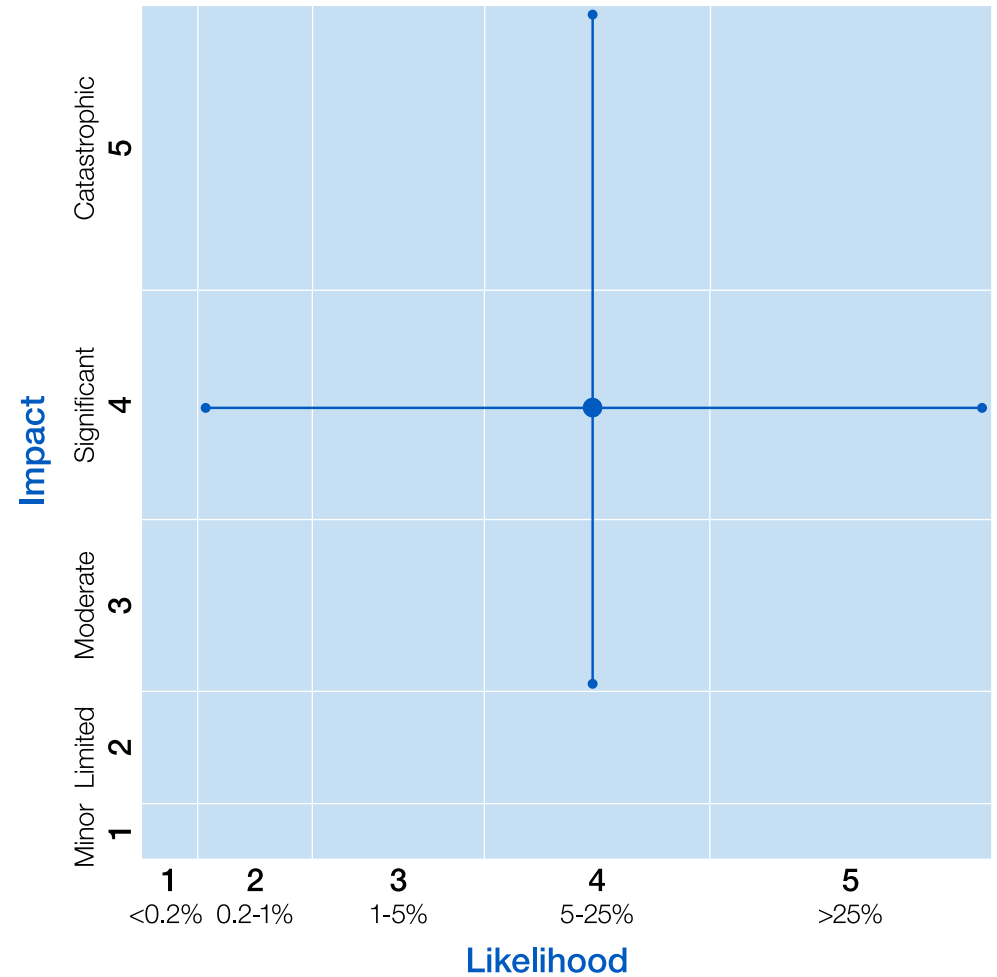
Response capability requirements

The UK maintains a civilian staff qualified to monitor radiation levels. Humanitarian assistance would be provided and our border staff would prepare for higher numbers of refugees needing assistance.

Recovery

The extent of the recovery needed for the UK would depend on the scale of the secondary impacts. Recovery in the affected areas would take many years and large-scale investment would be required.

HM Government