



Climate Change Adaptation Report 2014

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Foreword

When emergencies happen in our everyday lives, such as fires in our homes or road traffic collisions on our roads, we expect the Fire and Rescue Service to respond quickly and provide us with a professional and caring service, whatever the time or circumstances. But what are the expectations of the politicians and local communities regarding the Fire and Rescue Service when we are faced with extreme events linked to Climate Change (such as wide-scale flooding, blizzards, heat waves, droughts, structural collapse and wild fires) that can devastate our communities and pollute the surrounding environment?



In terms of current Climate Change adaptation reporting, the Fire and Rescue Service finds itself in a different position as an organisation compared to others that have reported, inasmuch that not only does it need to manage and maintain its own assets and resources when faced with extreme events, it is also expected to mobilise those assets and resources promptly and effectively in order to intervene and help both the public and businesses when their own Climate Change adaptation plans have failed. In other words, its primary role is to help others in emergency situations when they are struggling to help themselves.

Of the 51 Fire and Rescue Services that currently serve the UK (46 in England, 3 in Wales and one each in Scotland and Northern Ireland), it is fair to say that these expectations can differ significantly - and local priorities can vary greatly as a consequence. Some services have Climate Change adaptation and mitigation as a key focus for both the way they manage their organisations and the range of additional specialist rescue services they are able to deliver. But in a world dominated by financial austerity, others have been forced to focus on their core statutory requirements and little else. Nevertheless, whatever the prioritisation and resources available, each Fire and Rescue Service will use its operational risk management processes to identify and assess all appropriate 'fire and rescue related-risks' in their area, with a view to preventing emergencies happening in the first place, putting in place protections to mitigate their impacts and/or responding to them when they do occur.



In addition, the Services have collaborated effectively over the last decade (with each other and the other emergency services, as well as across government departments) in order to provide an effective National Resilience capability that can be mobilised promptly and co-ordinated centrally to provide assistance to communities across the country faced with major incidents linked to Climate Change or other causes.

The aim of this report, therefore, is not to provide firm proposals as to how UK Fire and Rescue Services will adapt their services over the next few years in order to meet the challenges of responding to emergencies that have resulted from extreme events linked to Climate Change – that will be down to each individual Fire and Rescue Service to decide, based on their own operating context and their analysis of the organisational and operational risks they are faced with. What this report will do, however, is signpost the identified operational Climate Change risk areas, so that Services might use it to help develop both their own local capabilities and partnership arrangements - as well as feed into the on-going National Resilience capability debate (in partnership with central government and the devolved administrations), in order to meet the growing challenges of Climate Change across the whole of the UK.

Nathan Travis
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Background

What is the Chief Fire Officers' Association (CFOA)?

CFOA is the professional voice of the UK Fire and Rescue Service, supporting members to fulfil their leadership role in protecting local communities and making life safer through improved service delivery. The Association provides professional advice to inform government policy and is committed to developing both strategic and technical guidance and sharing notable practice within the wider Fire and Rescue Service (FRS).

All senior management within the FRS across the UK are eligible for membership of the Association. CFOA is the driving force in managing change and implementing reforms in the service.

Integrated Risk Management Planning

Integrated Risk Management Planning (IRMP) is a risk management concept that was introduced into UK Fire and Rescue Services back in 2004, which advocated joining up the prevention, protection and emergency intervention activities of FRS's in order to target and reduce both the frequency and impact of emergencies to the public. This was supported by significant revision of the sector's main legislative framework for managing and dealing with emergencies (i.e. Fire and Rescue Services Act (FRSA) 2004 & Civil Contingencies Act (CCA) 2004), together with the introduction of successive National Framework documents from central government and the devolved administrations that effectively direct FRS's in terms of the things they need to consider and prioritise over the short to medium-term.

The key aims of IRMP set out by Government in 2004 were as follows:

- Reducing the number and severity of fires, and in collaboration with other agencies, road traffic collisions and other emergency incidents occurring in the area for which it is responsible;
- Reducing the severity of injuries in fires, road traffic collisions and other emergency incidents;
- Reducing the commercial, economic and social impact of fires and other emergency incidents;
- Safeguarding the environment and heritage (both built and natural); and
- Providing value for money.

Since that time, FRS's have developed both the concept, their own IRMP methodologies and the scale and scope of its utilisation – both as stand-alone organisations and collaboratively with other FRS's and partners. Their success has been spelled out as recently as last year by the former Chief Fire and Rescue Adviser, Sir Ken Knight, in his efficiency report (*Facing the Future*) to government, where he stated:

“Deaths from fires in the home are at an all-time low; incidents have reduced by 40 per cent in the last decade... Fire and rescue authorities have transformed themselves from organisations that dealt with fire response to organisations also covering preventative and wider rescue work and they have succeeded in reducing incidents” (Knight: May 2013, page 7).

This well-developed risk management and collaborative framework is the main reason why individual FRS's have not been considered as 'directed' authorities under the Climate Change Act 2008, with CFOA being asked to engage with the reporting process on a voluntary basis, instead, as a suitable and sufficient alternative.

How is this report structured?

This report will use the DEFRA guidance '*How to Produce an Adaptation Report*' (December 2013) as its basis. The main areas of focus will be:

- Information About the Organisation
- Identifying Risks
- Assessing Risks
- Addressing Risks
- Opportunities
- Uncertainties and Assumptions

- Barriers to Implementing Adaptation Programme
- Report and Review

Each area will consist of a number of questions from the guidance and their respective responses, together with examples of good practice, where appropriate, in order to support areas for further improvement both individually and collaboratively.

Although this report is authored by CFOA, its aim is to represent the UK Fire and Rescue Service. In doing so, its responses should be taken as being from a Fire & Rescue Service perspective.

Information About the Organisation

What are the main aims of the Fire and Rescue Service?

In the context of extreme events linked to Climate Change, the main aims of the Service are to:

- **Prevent and/or mitigate** the impacts of such extreme events on the public – for example through information and education about how to reduce their personal risks.
- **Protect** people and property in case they are affected – for example through advice and inspection of businesses and historic buildings, to challenge and support their own business continuity arrangements.
- **To respond and intervene** quickly and effectively when such events occur – making sure we have well-trained and equipped firefighters to deal with the associated emergency situations.
- **To work together** across Fire and Rescue Services, along with other emergency responders and partners to save & protect life, relieve suffering, protect property and the environment, maintain critical infrastructure & services, restore any emergency situation back to ‘normality’ as soon as possible, as well as promote and assist communities in respect to self-help and recovery.

Which of these will be affected by current and possible future impacts of climate change?

FRS are well-rehearsed in maintaining resilient functions and have a statutory duty under the Civil Contingencies Act (CCA) to maintain plans to ensure that they can continue to exercise their functions in the event of an emergency so far as is reasonably practicable. The duty relates to all functions, not just their emergency response functions. Therefore, this report will concentrate primarily on how FRS might adapt their service delivery functions to the public to meet the potential impacts of Climate Change, rather than focus on specific organisational challenges, such as changing building design/locations and/or equipment to improve resilience against more localised impacts (for example, relocating a fire station or putting in appropriate flood defences, if the site is at a high risk of flooding, or upgrading cooling systems for offices and ICT equipment rooms to help deal with heatwaves). Having said that, future asset management and capital investment plans need to take into account such impacts both on an organisation’s property portfolio and its infrastructure services, if they are going to be able to continue to effectively support the delivery of services to the public.

If we look, therefore, at the aims listed above in relation to the delivery of services, it is evident that all four can be impacted upon by extreme events, especially if both the scale and frequency of such events increases.

What is the current level of business preparedness for managing current impacts of climate change or extreme weather events?

At an individual FRS level, business preparedness is a high priority, as highlighted above in respect to business continuity arrangements. Services will consider extreme events associated with Climate Change as part of their IRMP processes and, consequently, they will have well-established frameworks for mutual aid assistance from neighbouring FRS’s in order to assist with such low-frequency, high resource demand type ‘Major’ incidents.

This collaborative approach is also evident with other CCA Category 1 responder agencies, such as the Police, Ambulance, Local Authorities and NHS in respect to their collective duties under the act for co-operation, risk assessment, business continuity management, emergency planning and exercising, maintaining public awareness (warning and informing), sharing information and providing assistance and advice to the commercial sector (local authority only). These activities are usually realised and managed under the auspices of each Local Resilience Forum (LRF).

Finally, FRS's also have the National Resilience framework and a number of assets at their disposal in the event of single or multiple major incidents. These assets and specialist crews are located across the country and can be mobilised to support operations at events such as wide-area flooding, wildfires, droughts (High Volume Pumps and Enhanced Logistical Support), as well as structural collapse, landslips & sinkholes (Urban Search and Rescue).

Have you assessed the climate thresholds above which Climate Change and weather events will pose a threat to your organisation? If so, what are the main results?

As FRS's undertake emergency response activities during extreme events linked to Climate Change in order to assist others, there will always be the threat of death or injury to firefighters and Service personnel engaged in supporting them on the frontline. These threats are regularly monitored and reviewed as part of individual FRS risk management processes, albeit the opportunities to adapt local services will be limited due to the limited resources available to invest.

On a UK-wide level, however, there is the opportunity to review and change the National Resilience assets provided by central government to meet the changing risks. These assets could then be deployed locally, in line with current arrangements. The current National Frameworks for England and the devolved administrations endorse the need for the FRS to engage with government in identifying improvements to these assets, based on the changing risk profile.

Who are your organisation's stakeholders? Do you need to assess the impacts of Climate Change on them?

FRS IRMP processes, together with Local Resilience Forum and National Risk Register activities do exactly that – identifying the relevant stakeholders and assessing the impacts of a wide range of emergency events, including those associated with Climate Change.

Identifying Risks

List all your organisation's strategic risks from Climate Change on a likelihood or consequence matrix, including thresholds where applicable.

As stated earlier, this report will focus on the services FRS's deliver to local communities and businesses when their own or the government's Climate Change adaptation efforts in their area have failed or been comprised. Consequently, the changes that FRS's make to the services they deliver to tackle such impacts will be dependent, to some extent, on the measures that the government and those communities and businesses have put in place (e.g. flood alleviation schemes).

Using central government's latest Climate Change Risk Assessment (2012) and categories, the main strategic risks in terms of both likelihood and consequence are as follows:

Agriculture & Forestry: Wildfires, Landslips, Sinkholes, Flooding – An increase in frequency and severity, which could have subsequent impacts on critical national infrastructure (e.g. road, rail, utility and communications networks)

Business: Heat Damage to Buildings and Infrastructure Networks and Assets, Landslips, Sinkholes, Flooding, Building Subsidence – An increase in frequency and severity, which could have subsequent impacts on individual businesses as well as critical national infrastructure (e.g. road, rail, utility and communications networks)

Health & Wellbeing: Wildfires (air-borne pollutants), Flooding (physical and mental health impacts) – An increase in frequency and severity, which could also have the knock-on impacts in relation to access to health services.

Buildings & Infrastructure: Wildfires, Heat Damage to Buildings and Infrastructure Networks and Assets, Landslips, Sinkholes, Flooding, Building Subsidence – An increase in frequency and severity, which could have subsequent impacts on critical national infrastructure (e.g. road, rail, utility and communications networks)

Natural Environment: Wildfires – An increase in frequency and severity, which could have subsequent impacts on habitats (destruction and pollutants)

What are your high priority Climate-related risks and why?

The highest priority risks are the ones where the Climate-Change related event (or events) have a wide-scale impact over multiple FRS areas and require both immediate and sustained interventions. A good example of this would be wide-area flooding or a large-scale wildfire, where the resources of the 'host' FRS are not sufficient to deal with the full impacts of the event and support from other FRS's is required. This has been recognised by central government, devolved administrations and FRS's and has resulted in the creation and development of the National Resilience assets throughout the UK and the National Coordination and Advisory Framework (NCAF). Furthermore, the latest National Framework documents from the respective governments have recognised the need for the sector to be actively involved in both reviewing and recommending development of these assets, as the risks change.

How have you determined the thresholds above which impacts will pose a threat to your organisation?

The current national planning assumptions from central government that are based on the national risk register have factored in three simultaneous major incidents occurring at the same time across the country. However, in December 2013 – February 2014, all of the 49 High Volume Pumps located across England and Wales were deployed to support major flooding operations in Cornwall, Devon, Somerset, Oxfordshire, Berkshire, Surrey, Hampshire and London.

The review and re-evaluation of those planning assumptions thresholds will be led by central government, supported by the sector. The *2012 National Framework document for England* states:

“Fire and rescue authorities must work collectively, through agreed strategic governance arrangements, with the Department for Communities and Local Government to agree whether and/or how to address any capability gap, identified through the gap analysis” (page 11).

In addition, the equivalent framework documents for the devolved administrations put a similar emphasis on working with their respective government departments (and central government) in maintaining and developing National Resilience assets.

What evidence, research, tools, methods and expertise have you used to identify future climate impacts to your organisations?

Besides their own well-established Integrated Risk Management Planning methodologies, FRS's will use national risk assessments and research (such as the national risk register and the CCRA 2012), as well as major event plans (such as the Public Health England's Heatwave Plan) to inform their own service-level planning. These tools will also be used at national level, with central government, to inform the longer-term investment in National Resilience assets and associated supporting structures.

Have you quality-assured the evidence or expertise that you have used?

Evidence used by the sector is primarily derived from government departments and agencies and/or academic institutions, which has been quality-assured by those organisations.

Have you discussed or consulted stakeholders on climate change risks and the options available to you to adapt to these?

FRS's have a requirement to consult their communities and stakeholders through their IRMP processes, where any proposed changes or developments in service delivery due to climate change risks will be highlighted. Furthermore, FRS's consult, plan and develop capabilities to deal with major incidents through their respective Local Resilience Forums with other responding agencies and organisations.

Have you considered the size of your organisation and its functions to ensure your approach is proportionate to these risks?

The size and capabilities of individual FRS's is ultimately determined by their own Fire and Rescue Authorities (FRA's) – linked to their local risks - although CFA plays a crucial role, working alongside government and with other relevant organisations, to develop National Resilience capabilities and ensure those capabilities remain fit for purpose.

Have you considered the time periods which your report will cover?

The minimum recommended period that an individual FRS's Integrated Risk Management Plan should cover is three years, although a number of FRS's have extended their planning cycle well beyond this timescale. In order to keep this report relevant, therefore, it is anticipated it will be reviewed and updated within the next five years.

Assessing Risks

What are the main criteria against which Climate impacts and risks are assessed?

The main criteria on which climate impacts and risks would be assessed would be the Service's ability to continue to effectively respond to incidents (whether individually, collectively and/or with partner organisations). Having said this, although the FRS's could continue to respond, the scale and nature of the event may well result in a variation of the services delivered (e.g. a relaxation of response time standards, or the number of fire engines that respond to a particular incident), but the focus will remain on being able to respond and undertake meaningful activities.

Can you describe the process by which your organisation assesses all potential direct and indirect climate effects that may impact on your organisational objectives in the short or long term?

At a FRS level, this will be undertaken as part of each service's IRMP processes – which will vary from service to service but will be based on the overarching IRMP aims already referred to in this report.

At a Local Resilience Forum and central government/devolved administration level, this will be undertaken using their respective risk management processes and structures.

How do you quantify, or otherwise estimate or characterise the impact and likelihood of risks occurring at various points in the future?

Again, this will be done using the established risk management frameworks and processes highlighted above.

How does your organisation assess the business, social, economic and environmental impacts of climate risks? What short and long-term impacts of climate change have you identified?

This will be done using government and academic research. The main impacts are identified within the Climate Change Risk Assessment (CCRA) and highlighted in this report under the section 'Identifying Risks'.

Addressing Risks

What are the adaptation actions to address risks to your organisation and timescales?

At a Service level, individual FRS's have been implementing adaptation actions as they have been prioritised within their own IRMP processes. For example, FRS's have well-established business continuity plans in place in order to effectively manage a direct impact on their own assets (such the loss of a station(s) or their primary control room function). They have also been proactively developing their response resources to meet developing climate change risks. For instance, over the last decade FRS's have significantly developed their water rescue skills and resources to help them respond to wide area flooding - without there being a specific statutory responsibility on them to do so - together with a range of specialist vehicles and equipment to help them effectively tackle incidents, such as wildfires and large scale pollution events (in conjunction with partners like DEFRA, the Environment Agency, the Forestry Commission and the equivalent government departments/agencies in the devolved administrations).

Many FRS's are also developing their trauma care and co-responding medical emergency skills. In the future, these skills could be used to directly support Ambulance Services and the NHS as they manage multiple physical and mental health issues in communities related to events such as heat waves, floods and/or severe cold weather.

Furthermore, at national (and potentially international) level, FRS's provide not only specialist water rescue resources, but also high volume pumping, together with urban search and rescue capabilities (e.g. structural collapse and unstable surfaces) – specialist skills and resources that can be developed and added to as risks change and develop.

In terms of the timescales for implementing such adaptation actions, these are primarily dictated by the assessment of the underlying risks (whether that is at local Fire Authority / Local Resilience Forum level or nationally at central government level through the Fire and Rescue Strategic Resilience Broad arrangements) and the subsequent access to funding.

On the subject of access to funding for adaptation actions, it is worth noting that, locally, FRS's are faced with an overall reduction in access to both capital and revenue funding for the foreseeable future – as a result of the progressive reduction in both government grants and restrictions on raising funds from council tax. In addition, the central government's criteria for how it allocates its latest £75m worth of transformation funding (capital and revenue) in England for 2015/2016 is specifically focussed on projects that create joint asset sharing with other blue light services (e.g. joint use of buildings with Police and Ambulance Services) and promote the greater use of on-call firefighters – with no mention of Climate Change adaptation as a priority. And although the current national frameworks in both Scotland and Wales make reference to their FRS's working with partner agencies to help mitigate the risks associated with Climate Change, there are no FRS-specific funding streams focussed on developing these capabilities.

At Fire and Rescue Strategic Resilience Board level, work is on-going between CFOA (representing FRS's) and central government to review the scope and extent of National Resilience assets, although this has the potential for decreased capability across the country if central government funding is reduced or withdrawn.

For your top priority risks, what are your proposed options for action and what analysis did you carry out to support this?

As stated above, at a local level, FRS's use their IRMP processes to both analyse and prioritise their local risks, of which the impacts of Climate Change will be one.

The analysis for Climate Change risks will include such research as the national CCRA, but will also include the analysis of local historical incident data, such as the locations and extent of previous wildfires and flooding.

In addition to this, FRS's use demographic profiling of their local communities and work with partner agencies to identify and support known vulnerable people, in terms of prevention and protection

activities. And although this might be primarily focussed on preventing or protecting people from the risks of fire, the research can also be used to support those vulnerable people in the event of an emergency incident linked to extreme weather.

Have you developed SMART programme of action that will take into account the short term and longer term effects of climate change?

At a local level, this would be a matter for individual FRS's to develop specific, measurable, achievable, relevant, time-bound and evaluated action plans through their IRMP processes, using the research tools and data highlighted above. However, both short and longer term priorities will be shaped by the resources/finances available to FRS's.

At a national level, CFOA will continue to work with central government and the devolved administrations to review and assess the effectiveness and efficiency of National Resilience assets, but again this will be shaped by the available resources/funding.

One area where the respective governments may be able to influence FRS's to develop the capacity and capabilities to more effectively respond to the impacts of Climate Change (both as organisations and as emergency responders) could be through the criteria it sets in relation to dedicated funding streams, such as the DCLG's Transformation Funding for English FRS's. Currently, as highlighted above, this is focussed primarily on promoting the increased use of on-call firefighters and expanding blue light collaboration between Fire, Police & Ambulance services.

How have you evaluated the costs and benefits of proposed adaptation options?

As stated above, at a local level, this will be done through individual FRS's business management processes. At national level, National Resilience assets and their development will be subject to respective government's cost/benefit analysis.

How will you implement the adaptation actions? How has your organisation ensured adaptation measures are effective, cost and time efficient, equitable and sustainable? How will you build adaptation into the overall decision-making processes of your organisation, ensuring that there is strategic corporate commitment?

Individual FRS's (either separately or in partnership) will implement any agreed actions through their own business and governance processes, taking due regard for public, staff and stakeholder consultation.

How much do you expect your adaptation actions to reduce risk by – and on what timescales?

Expectations of the level of risk reduction will be based on the specific modelling of adaptation schemes (e.g. such as flood defence scheme modelling by the Environment Agency), prediction mapping and the comparative outcomes of extreme weather events and/or associated Climate Change impacts across communities.

For example, the latest wide area flooding in Oxfordshire (Dec 2013-Feb 2014) was comparable in terms of its scale to the 2007 flood event in the county. However, the impacts on communities were greatly reduced thanks to the prevention/protection work that had taken place in the interim and the co-ordinated response of the various agencies, brought together under the auspices of the Local Resilience Forum. In 2007, in the region of 3000 properties were flooded across the county, compared to 168 in 2013/2014 and whereas the Fire and Rescue Service helped to evacuate over 600 people in 2007, only 32 people were evacuated in 2013/2014.

The important thing to note is that adaptation initiatives by individual agencies may predict a certain level of risk reduction focussed on their own internal priorities (e.g. EA will prioritise flooded property, whereas the NHS will prioritise deaths, injuries and associated ill-health outcomes), but the combination of these initiatives, together with well-co-ordinated response arrangements will have the potential to further increase those benefits.

With this in mind, FRS's are actively engaged across the country with their respective Local Resilience Forums (LRF's) in the development of suitable and sufficient multi-agency response plans that help deal with both the immediate impacts of extreme weather events and the subsequent recovery.

Opportunities

Are there any opportunities/benefits to your organisation/sector from climate change?

FRS's are in a good position to build on their already well-established specialist rescue and salvage skills. For example, partnership working on behalf of the EA to provide environmental protection services against the spillages/releases of hazardous and contaminated materials has been working successfully for many years and is being developed further – both in terms of policy and capability - as have the National Resilience capabilities linked to flooding, high volume pumping and urban search and rescue – not to mention the detection, identification and monitoring of hazardous substances carried out by strategically placed FRS teams across the country.

In addition, the Fire and Rescue Service is the only emergency service able to mobilise large numbers of skilled and well-equipped emergency responders to the scene of a major incident/multiple incidents in a short time period, supported by mutual aid arrangements as well as a command and control capability that can either scale up or down accordingly to ensure effective and focussed deployment of crews that are working to the strategic aims of the operational decision makers.

Furthermore, the skills of firefighters can be developed to support the activities of partner agencies, such as increasing their emergency medical skills to support the Ambulance Service and the NHS during periods of extreme hot or cold weather. FRS's also have the vehicles and equipment to gain timely access to people stranded because of extreme weather events – or help to deliver medically trained specialists (such as National Ambulance Hazardous Area Response Teams) and medicines to treated ill or injured people at the scene.

Looking forward, FRS's are also in a good position to get involved in promoting and delivering prevention and protection measures to local communities, helping to build community and business resilience with the support from and co-ordination with partner agencies. Having said this, such work will be dictated by the local FRA's and influenced by their own specific local priorities – and without a more formalised or statutory responsibility and investment to develop these capabilities they will be left to local determination.

Uncertainties and Assumptions

What are the main uncertainties in the evidence, approach and method used in the adaptation programme?

The main evidence is drawn from national research initiatives and governmental guidance which FRS's can access – as opposed to FRS's commissioning sector-specific work in this area. Having said that, there is some international research on both the Climate Change adaptation and mitigation challenges facing Fire and Rescue, particular from countries (e.g. USA, Australia) where the impacts of Climate Change are being felt more keenly at this time.

In addition, CFOA is promoting the development of stronger links with Fire and Rescue Services across the world in order to share understanding of our changing risk environments and how those risks are being managed. A good example of this is the current UK – USA initiative to share knowledge and skills around wildfire prevention and community wildfire resilience.

However, the main uncertainties in the evidence are the ones that face all agencies – namely the timescales for change and the extent of local impacts – which, in turn, impacts on the ability of FRS's to effectively escalate the priority of Climate Change adaptation up their own risk registers, when it is competing for investment and resources with other more immediate and explicit risks.

The situation is not helped by the current funding and future financial uncertainties FRS's face across the country, which have the potential to limit long-term investments for a cross-cutting issue such as Climate Change. Having said this, in the past, government has been able to drive such investments using targeted funding and legislation (such as the National Resilience capabilities, underpinned by the Fire and Rescue Services (Emergencies) Orders for England and comparable legislation within the devolved administrations).

What business and methodological assumptions have you made when devising the programme for adaptation?

The main business assumption is that FRS's will remain as local authority delivered services, focussed on the effective management of both local and national 'fire and rescue-related' risks, supported by the appropriate levels of funding to achieve this in a safe and professional manner. If, on the other hand, FRS's become contracted out services delivered by the private sector (as is the case for many other public sector services), their ability to target and flex their resources to meet emerging risks, support the government in dealing with national and international extreme events and also work together effectively with other FRS's and partner agencies in the co-ordinated response to such incidents will be brought into question.

In terms of methodologies, it is assumed the IRMP process will remain embedded in FRS's as the cornerstone of their risk management activities, based on the successes it has delivered over the last decade.

Barriers

What are the main barriers to implementing adaptive action?

The main barriers are two-fold – namely political direction and funding. Potentially, however, they are also the two main drivers for positive change, if approached differently. In relation to the former, both local and national politics have a role to play in how FRS's focus and develop their services to meet the impacts of Climate Change. Without political 'buy-in' and impetus (which could include legislation), FRS's will struggle to set the agenda in favour of adaptation initiatives, when they are already having to balance the management of multiple established priorities using only limited resources. Equally, insufficient investment in developing those adaptation capabilities will have a similar result.

How will you resource the work to address the barriers (what additional work is required)?

At a local level, FRS managers are making the case to their respective FRA's for investment in the right equipment and skills to meet the Climate Change risks they have already identified through their own IRMP processes and/or in conjunction with LRF risk registers. At the same time, CFOA is engaging with government at the Fire and Rescue Strategic Resilience Board to determine the future capabilities of National Resilience assets.

In addition, CFOA is proactively engaging with the other blue light partners (Police and Ambulance) to enhance the way they can work effectively together at major incidents (i.e. Joint Emergency Service Interoperability Programme – JESIP) – as well as linking up with other key response agencies/government departments – such as the EA, NHS, Public Health & DEFRA – to deliver services either in partnership with them or on their behalf (such as environmental protection and water rescue).

As the professional voice of the UK Fire and Rescue Service, CFOA will also continue to work with and lobby respective governments and other key stakeholders in areas where the Association believes FRS's can help to improve the safety, health and wellbeing of local communities.

Has the process of doing this assessment helped you identify any barriers that do not lie under your control?

As identified above, CFOA and FRS's are in a position to positively influence the main barriers highlighted above, but fundamentally, those areas (i.e. politics and funding) are beyond direct FRS control.

What/who are the interdependencies?

As with all public sector bodies, the interdependencies lie between the priorities of local communities (the public and local businesses) and their representatives (for both policy and funding), the people who work in FRS's and respective national governments (again for policy and funding).

How have you addressed these interdependencies?

These interdependencies are well-known to FRS's and are addressed both formally and informally through a range of activities. In respect to changing both the services and the way they deliver them to their local communities, FRS's have long-established public and stakeholder consultation arrangements as part of their IRMP processes.

In terms of the people who work within FRS's, there are local consultation and negotiation arrangements based on national guidance and good practice (e.g. ACAS), as well as national arrangements between the Local Government Association and the relevant representative bodies (such as the Fire Brigades Union (FBU), Fire Officers' Association (FOA) and CFOA).

At a national level, there are linkages via CFOA and the Chief Fire and Rescue Adviser (CFRA) into the Resilience and Emergencies Directorate of CLG in England, as well as structured forums, such as the Strategic Resilience Board. Similar linkages are also in place within the devolved administrations.

Report & Review

How will you monitor and evaluate the outcome of the adaptation programme and what is the timetable for this?

At a FRS level, individual services will use their own IRMP and business management monitoring and evaluation processes to measure the outcomes (in terms of the effectiveness, benefits and potential future improvements) of their chosen adaptation initiatives.

At a national level, central government and the devolved administrations will use their established monitoring and evaluation processes to determine both the outcomes and the future direction of the National Resilience programme and its associated assets. This will then feed into the considerations and decisions as to how that programme is delivered by FRS's going forward, based on the strategic direction set out by the respective governments both in their current and subsequent National Frameworks.

Has the current risk appetite with your organisation changed on account of the climate change risks identified? How will you monitor this in the future?

It is clear (after looking at the development of IRMP's of individual FRS's across the country and the strategic direction set out by respective governments in relation to assessing all foreseeable fire and rescue related risks) that the risk appetite has changed as a result of the impacts of Climate Change on their local communities.

However, this change in risk appetite is also impacted by a wide range of other risks (such as the economic, political, environmental, societal, technological and legal risks) that need to be considered collectively by services in order to identify their respective organisational priorities.

There is also an opportunity, in terms of the National Resilience programme, for respective governments to work collectively across the relevant governmental departments to identify the key risk areas where Climate Change risks are increasingly impacting on communities and where FRS's could be used effectively as delivery agents for a range of adaptation initiatives.

Future monitoring of changing risk appetite will be undertaken using the IRMP and business management processes highlighted above, both at local and national levels.

How will you ensure that the management of climate change risks is firmly embedded in your organisation's business planning processes, business risk management, investment decisions and gateway reviews and audits?

At a local FRS level, this will be undertaken using the already established IRMP and business management processes.

At a governmental level, this will be achieved using their own risk and business management processes.

How will you enable your management of climate change risk to be flexible?

IRMP processes and the National Frameworks allow for flexibility in both the short and medium term, based on the caveats highlighted above.

Has the production of this report led to change in your management of climate risks?

As this report is authored on behalf of CFOA and not on behalf of individual FRS's, it is not clear to date how much the contents will influence local IRMP risk assessments and processes going forward – nor how much it will influence central government and the devolved administrations in their development of UK National Resilience assets. However, CFOA is committed to highlighting the impacts of Climate Change to its members and forging links both across governments and with the relevant partner agencies in order to be a proactive and supportive participant in the development and delivery of adaptation initiatives and services that help communities in their times of need, when faced with extreme events linked to Climate Change.

How will you monitor the outcome of the adaptation programme over time and how will you communicate it to your organisation?

This will be achieved using the IRMP and business management processes, together with the consultation arrangements already highlighted elsewhere in this report.

What processes will be in place to modify the adaptation programme in light of findings from this evaluation?

Again, such modification processes are already in place within individual FRS's IRMP and business management processes.

How will you realise the benefits of the programme and how will this feed into the next risk assessment and options appraisal?

Such benefits realisation processes are already in place within individual FRS's IRMP and business management processes.

Briefly state your plans for the next iteration of your climate change risk assessment

At a local FRS level, these will be integrated into their respective IRMP risk assessments, which should also take into account Local Resilience Forum and national risk registers updates (as per current National Framework guidance). National risk register updates are identified and implemented at government level, using their own risk and business management processes.

State whether your approach allows flexibility to alter action taken or take new actions to address risk

This flexibility is integral to local IRMP processes and will be managed at government level using their own risk and business management processes.

Conclusion

Throughout this report it is evident that Fire and Rescue Services across the UK have a great deal to offer their local communities and the UK as a whole in terms of delivering effective and innovative services (on their own and in partnership with others) that help people to adapt to, manage and survive the impacts of extreme events linked to Climate Change.

It is also evident that although Fire and Rescue Services have a requirement under their current respective National Frameworks to identify and assess the full range of foreseeable fire and rescue related risks that impact on their Authority areas – in times of financial austerity, the resulting response activities have the potential to be constrained by what is affordable locally and what is fundable nationally – as well as what are the minimum legal requirements for Services to provide.

However, in the same National Frameworks, the respective governments have also recognised the benefits of working closely with the sector at a national level – not only to analyse the changing nature of the strategic risks the country faces, but also to determine how best to use, invest in and develop the collective skills, knowledge and assets of the Service in order to meet those risks.

Consequently, the Service is committed to working with central government, the devolved administrations and key partners to provide a broad range of timely and co-ordinated response arrangements that help deal with major, complex and/or wide-scale emergency incidents – including those that are linked to Climate Change. And, in a similar vein, FRS's will continue to respond effectively with partners to the priority Climate Change risks that have been identified within their local communities.

It is also recognised that such arrangements will also encompass effective pre-planning, training and exercising with partners, in order to provide a joined up approach to both response and recovery.

In summary, although the UK Fire and Rescue Service has the right skills, resources and potential to both provide and help develop effective and efficient adaptive services – aimed at mitigating the growing risks to society linked to Climate Change at both a local and national level – its success going forward will be shaped not only by what it can do, but also by how well it is able to work with and positively influence the key partners and stakeholders.