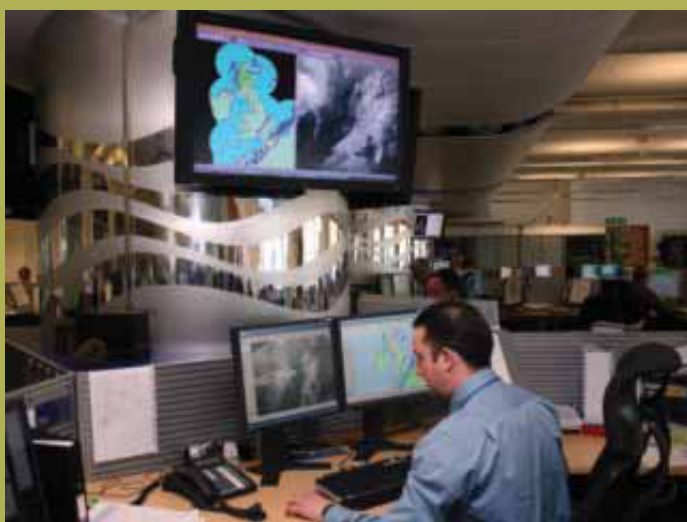


The Government's Response to Sir Michael Pitt's Review of the Summer 2007 Floods



December 2008

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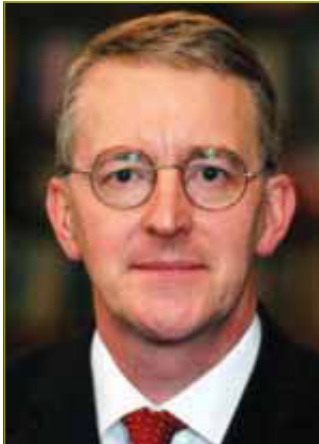
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BY THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS

Sir Michael Pitt's Review of the Summer 2007 floods was a major landmark for flood risk management in this country. Sir Michael identified much that went right last summer, but also that there are important lessons to be learned.

I am determined to build on the good things and act to bring about change. The Government's action plan will help to ensure that, as a country, we are all better prepared for flooding before, during and after it happens.

We know from what happened last summer just how much people were affected. Great efforts have been made to put things right and there's been much progress. But we also know that, despite all this, 18 months on, there are still several hundred households facing a second Christmas out of their homes. We will continue to play our part in getting people back home.

The task for us all now is to complete the implementation of the changes recommended by Sir Michael so that we are best placed to deal with flooding in future.

A handwritten signature in black ink, appearing to read 'H. Benn', written in a cursive style.

Hilary Benn
**Secretary of State for Environment,
Food and Rural Affairs**

December 2008

Response to **Learning Lessons from the 2007 Floods** , an independent review by Sir Michael Pitt

1. The report of Sir Michael Pitt's Review into the floods of Summer 2007 was published in June 2008. The Government warmly welcomes this Review, and pays tribute to Sir Michael Pitt and his team. They have thoroughly reviewed the flooding that happened in 2007 and identified clearly the lessons that should be learned from it.
2. The Review is a comprehensive appraisal of all aspects of flood risk management in England. In arriving at his conclusions, Sir Michael and his team listened carefully to many views, including from those people whose homes and lives were so badly affected by the floods.
3. Sir Michael has rightly put the needs of ordinary people at the heart of his Review. It identified six themes covering what people need:
 - Knowing when and where it will flood;
 - Improved planning and reducing the risk of flooding and its impact;
 - Being rescued and cared for in an emergency;
 - Maintaining power and water supplies and protecting essential services;
 - Better advice and helping people to protect their families and homes; and
 - Staying healthy and speeding up recovery.
4. The Review contains 92 recommendations addressed to the Government, local authorities, Local Resilience Forums, providers of essential services, insurers and others, including the general public.
5. **The Government supports changes in response to all of the recommendations in the Review.** The Government is taking steps in response to these and has already taken action on a number of the recommendations. Investment required for longer term implementation will be considered as part of the next comprehensive spending review and any net new burdens for local authorities will be fully funded.
6. Sir Michael acknowledged that implementing these recommendations will be challenging and will require strong national leadership. The Government welcomes this challenge and will deliver that leadership. The detailed response, setting out the actions being taken to implement each recommendation in turn, is set out in the Annex attached. In a few cases what the Government proposes to do differs from the precise terms of the recommendation.
7. The Government agrees with Sir Michael Pitt's assessment that the severe flooding in 2007 made it clear that strong, co-ordinated action is needed and that all of us have a role to play in reducing the impact of flooding. A fully effective response will only be possible if there is close co-operation and partnership between many bodies at all levels. Through partnerships, we have already started to make a real difference:
 - The Environment Agency is registering all publicly available phone numbers in targeted areas of high flood risk to enable more rapid warnings in future;
 - The Met Office and the Environment Agency are trialling an Extreme Rainfall Alert (ERA) service, and the Met Office has upgraded its National Severe Weather Warning Service (NSWWS) which now triggers at a lower threshold of probability;
 - The Environment Agency has built 49 new flood defences since Summer 2007 in England. This has increased protection to more than 37,000 properties;
 - The Environment Agency has distributed initial maps on surface water flood risk to Local Resilience Forums;

Introduction

The Government has agreed to fund the preparation of flood maps for reservoirs coming under the Reservoirs Act 1975, and to ensure that where these are not already available, they are provided to local emergency planners before the end of 2009;

The Met Office has improved its support to emergency responders through a web-based Emergency Support service. This provides free access to weather observations and forecasts (including rainfall) as well as information specifically generated for emergency events;

The owners of energy infrastructure (mainly electricity) and water companies have made an initial assessment of the potential impact of flooding on infrastructure and begun to invest in greater protection of these essential services;

The Government and the Association of British Insurers have issued guidance to small businesses and to the insurance industry;

The Government has removed the unrestricted right to pave over front gardens using impermeable materials;

A new practice guide was issued in June to underpin Planning Policy Statement 25 (PPS25) on Development and Flood Risk, emphasising how the policy applies to all forms of flooding, including surface water; this was followed up with regional workshops, conferences and presentations to local authorities and other stakeholders;

The Environment Agency has continued to raise public awareness of flood risk, providing clear information on what to do before, during and after a flood event; and

A template recovery plan for local authorities has been published to support local level preparations for future emergencies.

8. Much else has also been achieved, with the result that both public bodies and people are better prepared than they were in 2007. This has been acknowledged by Sir Michael in relation to national and local management of the November 2007 east coast tidal surge and the flooding earlier this year.
9. But there is absolutely no room for complacency. Despite all the efforts, there are still some people who have not yet been able to return to their houses after the flooding last year, and the recent flooding in other areas of the UK showed that the risk has not gone away.
10. Indeed, climate change increases the risk of extreme weather events. What the Environment Agency estimated as a 1 in 150 year event recently at Morpeth may, in fact, have a higher probability in future.
11. That is why, for example, the Government has already provided more funding to the Environment Agency and local authorities to help them tackle their responsibilities; total Government funding of £2.15 billion has been announced for this and the following two years. These funds will provide 145,000 households with a much reduced risk from flood or coastal erosion. Flood risk management activity by local authorities is supported by the Revenue Support Grant. The need to spend more in this area was foreseen by the Government, and additional funding was provided in the local government settlement for 2008-09 to 2010-11.
12. But much more needs to be done – not just by central and local government, but by businesses and individuals too. Acting now can significantly reduce costs of future flooding, in reduced flood emergency response and recovery costs, and reduced insurance premiums where flooding costs are insured.

Lessons from 2007 floods applied to the November 2007 coastal surge



Forecasting and Warning

Good early warning from Storm Tide Forecasting Service (STFS) gave time to plan and prepare for the surge.

Good liaison between the STFS, Regional Forecasters and Environment Agency regional staff. Forecasting tools developed over many years worked well.

Community based flood warning areas worked well and the service is now being extended to cover the rest of the Norfolk, Suffolk and Essex coast.

Public Information

A flood awareness event was held in Great Yarmouth about six weeks before the surge, attended by Tony Wright MP. The increased awareness in the town no doubt contributed to the positive local response.

Raised awareness about critical infrastructure led to liaison with Category 1 responders including the Constabulary, Fire service, Ambulance service and utilities to identify vulnerable sites and take action. This resulted in ambulances being moved away from at risk locations and a message of thanks from the Ambulance Service, via the Local Resilience Forum, after the event.

Early contact with local MPs, to make them aware of the surge and action being taken to respond to it, led to their very positive support both during and after the event.

General flood awareness of the public, emergency partners and the media following the Summer 2007 floods helped to ensure a very positive response to the flood warnings.

13. Sir Michael's Review therefore sets out a major programme of change, which the Government is committed to making happen. This action plan sets out how:

The Environment Agency will have new responsibilities for maintaining a strategic overview of all types of flood risk, better modelling and maps of flooding risk including reservoir inundation maps, and a national flooding exercise to test new response arrangements;

Defra will work with local authorities to support them in taking on a local leadership role, including responsibility for local flood risk management including surface water risk. Net additional costs to local authorities will be fully funded;

Defra will establish a new joint forecasting and warning centre (run by the Environment Agency and the Met Office) to improve the modelling and warning of flood risk; and

The UK Search and Rescue Group will help improve arrangements for flood rescue, supported by up to £2 million in new funding.

14. Many of Sir Michael's recommendations are being implemented by doing things differently and better. Others will require more substantial changes and new investment. Where full implementation of a recommendation will need further consultation or future legislation, this response sets out how we will proceed and what will be done in the meantime to address the concern behind the recommendation.

Knowing when and where it will flood

15. This was the first of Sir Michael's themes. The reason is obvious, but getting a clear picture of where flooding is most likely, and how likely it is, is not a simple task. Sir Michael therefore proposed some important changes to current arrangements.
16. **The Government supports these changes and has already begun to implement them. Implementing these recommendations will mean:**
 - Better knowledge of where the risks (from all sources of flooding) are greatest;**
 - Improved knowledge over time enabling better targeting and planning.**
17. The Environment Agency will have a new strategic overview role for all forms of flood risk, including groundwater and surface water for which no body has previously been clearly responsible. The Environment Agency will lead and co-ordinate the planning and management of all sources of flood risk while retaining operational responsibility for main rivers and coastal flooding. The Environment Agency will work closely with local authorities on their on-the-ground management of surface water flooding so that comprehensive assessments of local flood risk will be possible for the first time. There are already many examples of how working together can deliver results.

Working together to assess risk

In Cornwall, the Environment Agency, the District Councils and the County Council highways department are working together and sharing information on surface water flooding. This includes knowledge of problem locations as well as collecting and centralising historic data on floods.

This has included work in Truro, which has a history of flooding.



Knowing when and where it will flood

The Environment Agency is carrying out detailed two-dimensional modelling of surface water flooding, analysing where the flood water flows, areas of deep ponding and also creating a hazard map. This information is vital in planning for a flood and in carrying out strategic flood risk assessments.

The Environment Agency, Torbay Council and South West Water are also working together on the Torbay Integrated Urban Drainage Pilot. This has focussed on the historical flooding that affects the Union Street and Fleet Street areas of Torquay. It has looked in detail at:

- Identifying key flood problems using computer modelling;
- Recommending the most effective and sustainable solutions, taking account of climate change;
- Gauging public awareness and attitudes to urban flooding;
- Identifying barriers that prevent the partners from working effectively together, and suggesting ways to overcome these.

These practical partnership approaches have identified a range of measures which will help achieve progress on flooding and water quality, and shown that integrated plans are the most efficient way to improve the management of urban drainage.

18. The Agency and the Met Office are establishing a joint centre to develop and bring together modelling of weather and the movement of water on the ground, supported by £5 million funding from Defra. This will give responders a stronger basis for planning for the prevention and control of flooding. In the meantime, the Met Office, in partnership with the Environment Agency, is piloting arrangements for extreme rainfall alerts and local organisations are working together to collect and share information to help address known problem spots.

Improved planning and reducing the risk of flooding and its impact

19. Sir Michael also recommended a large number of measures designed to reduce the likelihood of flooding and its impact. They included:
 - Controls or guidance around development (building regulations, planning controls);
 - Steps to encourage more sustainable new development or greater resilience in the existing housing stock;
 - Much clearer leadership locally to manage flood risk;
 - A risk-based approach to sewerage design and investment in flood defence; and
 - Better mapping of flood risk to support that role.
20. **The Government supports and welcomes all these recommendations, implementation of which will mean:**
 - Better co-ordination and planning of steps to prevent flooding or plan how to deal with it when it happens;**
 - Greater security for people and their property.**
21. Some can be achieved quickly. The proposed ban on non-permeable paving of front gardens has already been implemented. Work has already started on others, including a review of how building regulations and guidance can help to reduce the impacts of flooding.
22. As a result of implementing this Review, local authorities will co-ordinate and lead local flood management activity, they will know where all local flood risk and drainage assets are and who owns them, and they will be able to assess the needs and desires of local communities in the area. There will be clear local responsibilities and people will know to approach the Council for advice if there are problems. This will be within the context of the Strategic Overview role provided by the Environment Agency which will also retain its responsibility for flooding from main rivers and the sea.
23. Many of the recommendations on the role of local authorities will need legislation to be fully implemented and the necessary provisions will be published in a draft Bill for consultation in the Spring. But local authorities can make progress towards achieving the aims of these recommendations in the meantime.
24. In many areas there is already work being led by local authorities to improve the management of flood risk locally. Leeds and Gloucestershire are two notable examples of strong and imaginative activity by local authorities to help protect their communities. The Government recognises and greatly values this work which shows local authority leadership at its best to support this new role for local authorities.
25. We will also need long-term investment in our drainage and sewerage systems to help to reduce flood risk. Some important measures are necessarily longer term; for example, the water companies have proposed capital spend of £1.6 billion over five years to help prevent sewer flooding. Those proposals are currently being considered by OFWAT in its price review.

Improved planning and reducing the risk of flooding and its impact

26. However, there are no current proposals for water companies to replace whole segments of the drainage/sewerage system and the Environment Agency's flood risk management budget is inevitably limited. There are therefore very important recommendations in the Review for adopting a risk based approach in matters such as the design standards for sewers and Environment Agency maintenance of flood prevention assets.
27. An important part of improving the management of flood waters is to prevent it from entering the draining system and potentially overloading it. Sustainable drainage systems (SUDS) are a way to deliver this. The Government intends that local authorities should be responsible for adopting and maintaining new and redeveloped sustainable drainage systems on highways and the public realm, so as to increase their uptake and effectiveness.

Surface Drainage Systems in Elvetham Heath, Hampshire

Elvetham Heath¹ is a recent development, to the north of Fleet in Hampshire. It comprises 1868 houses built in phases between 1999 and 2008. The site design implemented PPG25 *Development and flood risk* in providing an integrated SUDS drainage system within the constraints of an existing adoption framework. The site was awarded a gold award for landscape design and is highly regarded by those living within the local community. It has a Site of Special Scientific Interest (SSSI) wildlife sanctuary immediately downstream of the principal site stormwater outfall, and the community has become closely involved with managing it.

The SUDS system components used on the site, all linked by conventional pipework, are:

- Soakaways (for roads and groups of houses);
- 14 detention basins;
- 1 pond (lined);
- A number of swales/linear ponds.



Village pond, Elvetham Heath, Hampshire

¹ The web site for Elvetham Heath provides a lot of information about its development (www.elvethamheath.co.uk/).

Being rescued and cared for in an emergency

28. There are several partners that need to come together to plan for rescuing and caring for people in an emergency, and then to work together if there is a flooding emergency. Sir Michael made several recommendations on how a range of public sector bodies and companies could be more prepared for flooding in general, and made specific recommendations on floods affecting roads and the railways.
29. Sir Michael also made recommendations on how local disaster management arrangements should be triggered, who should lead them and what information should be provided to them to make them fully effective. He also identified the information needs of critical infrastructure sites and the tools that should be developed by the Environment Agency to provide information to help critical infrastructure owners to plan for an emergency.
30. **The Government supports all of these recommendations, implementation of which will mean:**
 - Earlier and more accurate warning of impending flooding;**
 - Better arrangements and facilities to rescue people or get them out of difficulty;**
 - Better care for those rescued.**
31. In terms of providing better information to emergency providers, the Environment Agency will develop further its existing flood visualisation tools to make them available to Gold Commands during flooding to help them manage the situation. The Environment Agency and Met Office will also work together through the joint centre they are establishing to deliver better forecasting. This centre will deliver earlier warnings of flood risk to critical infrastructure sites, to local authorities and other local public bodies so that they can assess the likely impact and, where necessary, trigger the local emergency response structures earlier.

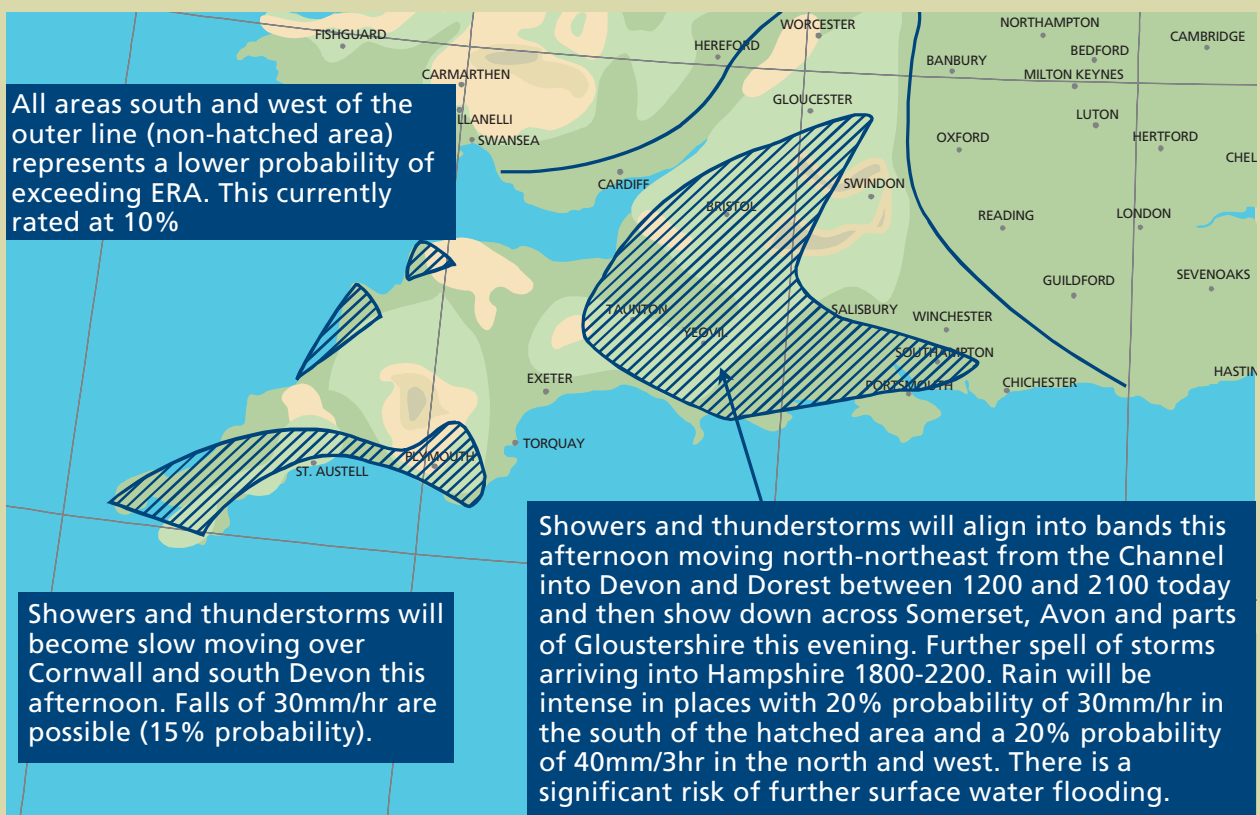
Being rescued and cared for in an emergency

Extreme Rainfall Alert (ERA) Service

Advance warning of extreme rainfall is difficult as it can happen very quickly when the level of rainfall exceeds drainage capacity. The Met Office and Environment Agency have developed a pilot service for Category 1 and 2 emergency responders which forecasts and warns about extreme rainfall.

Southwest England: 5 September 2008

On 5 September the Met Office forecast thunderstorms and heavy showers in the southwest of England and issued the alert shown below. Feedback from Cornwall County Council reported that the alert led to a pre-emptive deployment of the fire service and, as a result, they carried out a successful rescue from a car when floodwaters were rising a foot every 20 minutes.



32. In terms of the emergency response, the Government will provide funding to improve arrangements for flood rescue by better co-ordination between bodies, agreeing standards for equipment and training, and putting new assets (e.g. rescue boats) in place, supported by up to £2 million from Defra. It will also expect public bodies and utilities to review very quickly the adequacy of their emergency response facilities. The Government will publish this month, in partnership with the Local Government Association and the Society of Local Authority Chief Executives, revised guidance on mutual aid between councils to ensure the best possible resourcing of any local emergency response.
33. Where travel would be inadvisable, improved early warning to public bodies and the general public will help prevent those journeys. However, should it still prove necessary, the Highways Agency will ensure that motorists on trunk roads and motorways can be rescued from difficulties and looked after well. For example, they and the West Mercia Local Resilience Forum have already held a joint exercise testing their evacuation plan and their emergency customer welfare policy.

Maintaining power and water supplies and protecting essential services

34. Sir Michael made a number of recommendations for improving the resilience of essential services to natural hazards and the management of dams and reservoirs. During the 2007 floods there were significant effects and risks to the supply of both water and power to thousands of households which were not themselves flooded.
35. **The Government supports all these recommendations. Implementing these recommendations will mean:**
- Greater protection of essential services from disruption by natural hazards, for example avoiding power cuts beyond the flooded area;**
 - Greater safety and reassurance for those living or working near reservoirs.**
36. In order to increase the resilience of essential service providers, the Government will put in place
- A programme to reduce the disruption of essential services by natural hazards;
 - A process of vulnerability assessment and resilience building to protect the most critical sites from flooding;
 - A framework allowing the Government, economic regulators and asset owners to work together to support the programme of resilience building;
 - Promoting business continuity planning within the essential service sector.
37. The Network Owners (e.g. utility companies) and the Environment Agency are now working to a programme by which the majority of energy sector sites will have been assessed by the end of 2008. It is intended that this work will inform the companies' investment and operating plans by the latter stages of their current price review negotiations. This is for consideration by the Office of Gas and Electricity Markets for the review period starting April 2010.
38. Meanwhile, Network Owners have already taken a number of steps to improve their resilience to flooding. For example:
- The sites at Gloucester, Walham and Castle Meads now have flood defence barriers in place;
 - National Grid and a number of distribution companies have purchased significant quantities of relocatable flood defence equipment and trained their workforce in its deployment;
 - Companies have improved their preplanning for managing flood events at key sites;
 - Monitoring of flood warnings from the Environment Agency has been enhanced; and
 - Some local vulnerable assets are being protected where this would effectively improve resilience.

Maintaining power and water supplies and protecting essential services

Building flood resilience in the electricity sector

In response to the flood events of summer 2007, the Department of Energy and Climate Change (DECC) has worked with the electricity, gas and oil sectors to improve awareness and understanding of flood risk issues and to develop a programme of work to improve overall resilience.

The majority of work has focussed on the electricity sector, as this is more vulnerable to flooding. In September 2007 a Task Group was established to review the resilience of electricity substations to flood risk. The Task Group included representation from DECC, Office of Gas and Electricity Markets (Ofgem), electricity companies, the Environment Agency, Scottish Environmental Protection Agency and the Met Office.

The electricity companies and the Environment Agency are now working to a programme by which the majority of sites will have been assessed by the end of 2008. It is intended that this work will inform the companies' investment and operating plans by the latter stages of their current price review negotiations, for consideration by Ofgem for the review period starting April 2010.

The electricity companies have already carried out work to improve substation flood resilience. For example, since 2000 CE Electric UK has included 36 high risk sites in their investment plans for permanent flood mitigation. Investment at these sites includes construction of a water proof subterranean wall around the perimeter of the site, elevating or moving the site. The example shown below is of a water proof subterranean wall at a primary substation in Barnsley.



39. On reservoirs, the Environment Agency has started a trial mapping project (to be completed by December 2008) with national mapping commencing in early 2009. This will provide Local Resilience Forums with inundation maps showing the area that might be affected if a dam failed. This major and complex task will be completed by the end of next year. The Local Resilience Forum will then be able to plan how it could protect life and property in that area more effectively. The Government will provide guidance and support to Local Resilience Forums in this work. This information could also enable owners of strategically important facilities to identify where they are at risk of inundation.

Better advice and helping people to protect their families and homes

40. Sir Michael made a number of recommendations designed to ensure that people:
 - Understand general levels of risk;
 - Take sensible precautions themselves in the light of that risk;
 - Get the most effective warning of an impending flood;
 - Know where to go for advice; and
 - Get consistent and authoritative advice.
41. **The Government supports all these recommendations. Implementing these recommendations will mean:**
 - People are more aware of any risks they face and can prepare for them;**
 - They are supported by clear advice and clear responsibilities locally.**
42. The Government has commissioned research on how to communicate risk better which will inform further work in this area. It is also reviewing the guidance given to Local Resilience Forums on linking websites, and otherwise ensuring that people get the information they need, in the most effective way.
43. Providing information to local people will be supported by work being done by the Environment Agency to make their warnings more locally specific and to provide any warnings earlier. This modelling is complex and will not be completed quickly, but it will open up more ways of contacting people at risk from an imminent flood (e.g. door-knocking in the streets likely to be affected). In addition, specific advice has been distributed by the Environment Agency so that the public is better prepared for what to do before, during and after a flood event.
44. In the meantime, the Environment Agency is improving its ability to contact people automatically by telephone and has already ensured that all publicly available land-line numbers for high risk properties will be on its system by the end of February 2009 (except where people have opted out of the system). Ex-directory numbers for such properties should soon also be on the system.
45. Finally, the Government will ensure that people buying properties in high risk areas should be aware of the fact before they decide to proceed. We will do this by using the Property Information Questionnaire and including questions relating to the risk of flooding affecting the property. This will form part of the Home Information Pack process. These questions will be related to the information on flood risk on the Environment Agency website.

Better advice and helping people to protect their families and homes

Campaign on caravan and campsites at flood risk

During the 2007 floods, campsites flooded across Gloucestershire and along the River Avon in Warwickshire and Worcestershire. During a flood, caravans can act as an obstruction to the passage of flood waters, and as was seen in one case last year, they can be swept away to form greater blockages downstream.

The Environment Agency in the South West has produced an information pack on caravan and campsites at flood risk for site owners. The pack gives practical advice on keeping staff and visitors safe in a flood. All caravan and camping site owners in flood risk areas in the South West have been sent an information pack, tailored to their site. As well as the packs, maps were sent showing the flood risk of each individual site, what flood warning services are available to them in their area and how the Environment Agency could help.

The South West Tourism Board was involved in the initiative which was invaluable in showing the positive aspects of flood preparedness to the tourism industry. Staff in the South West will be visiting caravan and camping sites in particularly vulnerable locations over the next few months, to help their owners prepare for a flood, using the pack as a guide. Response to the information pack so far has been encouraging with 315 site owners in the South West telephoning the Environment Agency's free Floodline for more information and just over 400 packs sent out across the region.



Managing the recovery process

46. Sir Michael acknowledged in his report that recovery arrangements generally worked well in the aftermath of the summer 2007 floods. However, he has made several recommendations to help improve the process of managing recovery, at local, regional and national level, so that those affected can get back to normal as quickly as possible. These recommendations included steps to help ensure the health and well-being of communities affected by flooding, defining the roles and responsibilities of those organisations involved in flood recovery, and providing greater certainty for local authorities about the funding of recovery from any future major emergency.
47. We agree that there is scope to make the recovery from any future major emergency even more effective and have put in place action plans to deal with the issues raised by Sir Michael.
48. **Implementing these plans will mean:**
 - More effective and co-ordinated leadership of recovery at local, regional and national level, leading to better co-ordinated recovery of local communities;**
 - Consistent health-related advice available from a single source;**
 - More certainty for local authorities about what financial support they can expect to receive from Government to help meet the costs of recovery.**
49. We have already put much of the learning from how recovery was managed last year into the National Recovery Guidance which was published in October 2007. This provides advice for local responders on managing the recovery process, including:
 - Establishing Recovery Co-ordination Groups from the outset of an emergency;
 - Identifying at an early stage the aims and objectives for recovery at the local level, including whether to aim for normalisation or longer-term regeneration and economic development;
 - Managing the transition from response to recovery;
 - Case studies describing the recovery from previous severe flooding episodes and contact details of experienced organisations; and
 - Guidance and case studies on how best to approach community engagement during recovery.
50. This work will also be covered in the Government's revised Emergency Response and Recovery Guidance, due to be published in Spring 2009.
51. National recovery planning is following the same principles and the Government will be issuing revised guidance for central government operations in early 2009. This will apply not just to flooding but for recovery from all types of emergencies.
52. As the lead Government Department for flood recovery, the Department for Communities and Local Government (CLG) has already developed and implemented a recovery plan which sets out its responsibilities and how it will work across Government, and the wider public and private sectors to support recovering communities, in cases where national co-ordination is required. A summary of the plan is available on the CLG website.
53. The plan sets out how we will manage the transition from response to recovery, the arrangements for drawing together interdepartmental ministerial and official groups to co-ordinate Government support for the recovery effort, how we will communicate with Parliament, the regional and local partners, and how we will evaluate our efforts and identify lessons for future events.

Managing the recovery process

54. We have also clarified the role of Government Offices during the recovery phase, and will be agreeing with local authorities what information they will need to provide to Government in the event of another major emergency, allowing them to take account of this in their recovery planning.

National Recovery Guidance case study

The National Recovery Guidance (NRG), published in October 2007, provides web-based one-stop shop guidance giving advice on how and where local responders, particularly Local Authorities, can get government or other assistance during the recovery phase of an emergency.

The National Recovery Guidance includes:

1. A Recovery Plan Guidance Template, which can be tailored to local circumstances and used as a basis for recovery planning.
2. 38 detailed Topic Sheets for local responders, covering issues such as mutual aid, economic and business recovery, community engagement, and environmental pollution and decontamination.
3. Over 70 Case Studies from incidents and exercises.



Photo: delivery of a caravan for temporary housing in Tewkesbury. Photographer: Tim Aston

The 2008 National Capability Survey (carried out a few months after the Guidance was published) showed that all Local Resilience Forums responding to the survey were aware of the NRG, and many were already putting multi-agency recovery plans in place based on the Template Plan. This significant increase in awareness of recovery issues should mean that emergency responders are now far better placed to help communities back to normality as quickly and effectively as possible, using pre-planned arrangements.

The principles of the NRG were tested following the serious flooding in Morpeth in early September: Having a recovery plan already developed in advance of the event, which included the community, voluntary sector and statutory partners, has heavily influenced what has been hailed as a successful recovery so far. (Castle Morpeth Borough Council).

Managing the recovery process

55. Looking after the health and well-being of communities affected is vital and we will ensure that flood-related health advice is available for householders and businesses through a wide range of sources. We will continue to ensure that systems are in place locally for providing help for individuals affected by flooding.
56. It is crucial that homes are dried out as quickly and effectively as possible so that people are able to return home with no unnecessary delay. We are commissioning a study to bring together everything known about how to dry out flooded buildings quickly. If there are gaps in knowledge we will consider how best to fill them.
57. We agree with Sir Michael that local authorities should continue to make arrangements to bear the costs of recovery for all but exceptional emergencies, and the Chartered Institute of Public Finance and Accountancy (CIPFA) have now reviewed their guidance to provide greater clarity to local authorities on the need to review and assess all financial risks (internal as well as external risks, including flooding).
58. The Bellwin scheme is a well-established mechanism which provides support to cover local authorities' immediate needs in the event of an emergency. We agree that it would be helpful to give local authorities greater certainty about the circumstances under which the Government will consider providing additional support and we are developing pre-planned funding principles, which will provide:
 - More certainty for local authorities by setting out the sort of exceptional circumstances when Government will consider stepping in to provide support; and the sort of recovery costs which will be covered;
 - Greater consistency between Departments in their funding provision;
 - Ease of use, with the arrangements clearly explained in the National Recovery Guidance, and Government Offices providing, as far as possible, the first point of contact for local authorities.

59. The key benefits of implementing Sir Michael's Review will come from having fewer floods, and less resulting damage, than there might otherwise have been. The estimated total direct damage caused by the flooding in June and July of 2007 is around £3.1 billion, most of which was covered by insurance.
60. The flooding in Morpeth earlier this year was assessed by the Environment Agency as a 1 in 150 year event. But weather events like those seen in Morpeth will occur somewhere in England much more frequently than once every 150 years. If certain assumptions are made, there is an estimated 65% chance of at least one place in England flooding on the scale of Morpeth each year. Events seen in recent years before summer 2007 support this assessment that significant flooding is relatively frequent (see Annex A).
61. The Foresight report² published in 2004 estimated annual damages of £1.4 billion arising from flooding and coastal erosion across the UK, meaning that we can expect annual costs from flooding on average to be around half of the estimated £3 billion damages caused by the floods of summer 2007.
62. Climate change is expected to increase the probability of flood events in the future, and the average annual damages arising from them. The Foresight report estimated that the average annual damages of flooding and coastal erosion could rise from £1.4 billion per year to as high as £27 billion per year by 2080. The Foresight report also suggested that future economic damages of flooding can be reduced by between 40% and 70% through risk management activities.
63. Implementing Sir Michael's Review will therefore, in the medium to long term, provide major benefits for local people, businesses and local authorities. There will be fewer floods and less damage than there might otherwise have been. The savings to the economy could be substantial. However, those benefits depend on making the most of the available resources and some additional upfront investment.

² <http://www.foresight.gov.uk/OurWork/CompletedProjects/Flood/index.asp>

Funding and Timeline

Funding

64. The Government set aside £34.5 million of the £2.15 billion total for flood and coastal erosion in this year and the following two years to implement Sir Michael Pitt's Review. This response also draws upon other budgets available for flood risk management activity in order to invest a total of over £60 million in delivering the recommendations over the same period.
65. The table at Annex B provides a breakdown of how this money is being invested. The major element of this funding is for local authorities. Flood risk management activity by local authorities is supported by the Revenue Support Grant. The need to spend more in this area was foreseen, and additional funding was provided in the local government settlement for the current Comprehensive Spending Review (CSR07) period. However, the Pitt Review recommended that further activity in this area was needed.
66. The Government is therefore providing an additional £15 million to local authorities to ensure the net additional cost arising from its response to the Pitt Review is fully funded. This additional funding will more than double the estimated £12 million local government spend on existing flood risk management activity over the next two years. In addition, local authorities will benefit financially from improved local flood risk management, through reduced flood emergency response and recovery costs and lower premiums where such costs are insured.

Timeline

67. Detailed planning is in place to ensure that we continue to make rapid progress in delivering the action set out in each of the detailed responses attached. Annex C sets out an outline timeline for these changes.

Annex A Further Background on Recent Flooding Events

This year's flooding in Morpeth was caused by 150mm of rain (6 inches) 3 months' worth falling onto saturated ground and full river catchments. Approximately 1000 homes and businesses were affected by the flooding and around 250 families took advantage of rescue centres and temporary accommodation. The Environment Agency describe the conditions that led to Morpeth flooding as a 1 in 150 year event.

Other recent flooding events have included:

The autumn of 2000 was then the wettest since records began in 1766. The heaviest rainfall that season was across England and Wales, with a total of 489 mm falling between September and November; the most extreme rainfall was in October, which resulted in extensive flooding. UK insurance claims arising from that season's floods came to around £1 billion;

Many of the same areas of southern UK flooded again in early 2003;

In the summer of 2004 a flash flood in Boscastle, Cornwall, was caused by around 200 mm of rain falling in just 4 hours. More than 150 people had to be airlifted to safety and 50-60 cars were washed away around £50 million of damage was caused;

Another extreme event took place in January 2005, when 100 mm of rain fell around Carlisle in Cumbria. So intense was the rain that surface-water drainage could not cope and flooding began. The flood caused local power cuts and interrupted both the landline and mobile phone systems;

The same year, 2005, saw a similar event on the North Yorkshire moors. After a weekend heatwave, on the night of Sunday 19 June North Yorkshire had the best part of a month's worth of rain in 3 hours. One fast-flowing flood that went through the villages of Thirlby, Helmsley and Hawnby was caused by 27mm of rain that fell in just 15 minutes. In places the flood was 2 metres deep and it carried cars along with it. Meanwhile, in river courses torrents washed bridges away.

Annex B Funding breakdown

Funding Breakdown			
Allocation to:	From Pitt fund (£m)	From other budgets (£m)	To deliver:
Local Authorities	£15m	£12m over 09/10 to 10/11 ³	Local authority leadership on flood risk management in the 50 highest priority areas; including surface water management plans, tackling of surface water problems, mapping of drainage assets, and oversight and maintenance of sustainable drainage systems (SUDs) for new housing, etc.
Environment Agency and Met Office	£5.0m	£2.7m	A new joint forecasting and warning centre, including the extreme rainfall alert.
Environment Agency	£8.5m	£6.6m	All other recommendations where EA lead, including their new strategic overview of all types of flood risk in England, better modelling, forecasting and mapping for flooding particularly surface water, roll-out of ex-directory flood warnings, reservoir inundation maps, and a national flooding exercise to test the new response arrangements
Met Office	£0.5m		Research to make use of new detailed forecasting models for flooding.
Individual property owners		£5.0m	New grant scheme to encourage householders to install flood resistance and resilience measures.
Cabinet Office	£0.4m	£0.4m	New team within the Civil Contingencies Secretariat to run a national campaign to improve the resilience of critical national infrastructure
Various organisations		£0.56m	Projects that demonstrate ability to reduce flood risk through working with natural processes, for example through using different types of planting regimes to slow down flood waters.
Others	£10k	£10k	To fund the Risk and Regulatory Advisory Council to consider the communication of flood risk to the public, and separately to fund the Department for Communities and Local Government to conduct research into more efficient ways of drying out homes following flooding.
Contingency	£5.1m		To provide a contingency fund in case allocations need to be increased in some areas, and to include; Up to £2 million for an improved flood rescue capability; Up to £1.25 million to support the production of reservoir emergency plans by Local Resilience Forums.
SUB TOTAL	£34.5m	£27.3m	
TOTAL	£61.8 m		

The initial allocations announced on 25 June 2008 are included within the above figures.

³ Supported by Revenue Support Grant settlement for the 2007 Comprehensive Spending Review period flood risk management was a recognised pressure within the CSR07 settlement for local authorities.

Annex C Key dates timetable

This annex sets out in more detail the timetable for taking this work forward. More information is provided against each individual recommendation. We will report on progress against this timetable. The relevant Pitt recommendation is shown by the bracketed number.

<p>By 31 December 2008</p>	<p><i>Knowing where and when it will flood</i> Royal Assent for Climate Change Act, with adaptation provisions (1) Environment Agency strategic overview role defined (2) Environment Agency identifies initial high surface water risk areas (5) Government publishes Surface Water Management Plan (SWMP) guidance (5) Environment Agency/Met Office establish joint centre (6)</p> <p><i>Reducing the risk of flooding and its impact</i> Department for Communities and Local Government publishes PPS25 Practice Guidance (7) Government restricts automatic right to pave over front gardens using impermeable material (9) Future local authority roles for local flood risk management defined; LA chief executives asked to gear up in preparation (14-20) Environment Agency publishes new guidance on external contributions policy (24) Environment Agency publishes sandbags policy guidance (26) Government provides funding to promote insurance take-up (29) Association of British Insurers issues guidance on flood claims and repair timescales (32)</p> <p><i>Being rescued and cared for during an emergency</i> Met Office upgrades National Severe Weather Service to issue warnings against lower probability threshold (34) Government issues guidance to local authorities on mutual aid (38) Highways Agency identifies motorways and trunk roads vulnerable to flooding and recruit emergency planning officers (45) Government produces formal protocol for use of armed forces personnel in Gold Commands (47) Government consults on draft National Flood Emergency Framework, setting out central government crisis machinery arrangements (48)</p> <p><i>Maintaining power and water supplies and protecting essential services</i> Government publishes National Security Strategy, highlighting threat of increased flood risk (50) Environment Agency works with Local Resilience Forums and emergency services to identify flood risk to critical infrastructure (51) The Government starts review of Civil Contingencies Act 2004 (54-56)</p> <p><i>Recovery</i> Health Protection Agency makes links between their website and others on flood related health advice (71) and health and wellbeing support (72)</p> <p><i>Roles and responsibilities during recovery</i> Government issues revised Compact between Government and Third Sector (76) Chartered Institute of Public Finance and Accountancy issues guidance on local authority financial risk management in relation to flooding (83) Government publishes Pitt Review action plan with robust monitoring arrangements in place (86)</p>
<p>By 30 June 2009</p>	<p>Government publishes draft Floods and Water Bill Bill introduction to Parliament depends on Parliamentary time (2, 14-20, 28, 58, 90-91)</p> <p><i>Knowing where and when it will flood</i> Environment Agency refines identification of surface water hotspots (5) Environment Agency/Met Office joint centre fully operational (6)</p> <p><i>Reducing the risk of flooding and its impact</i> Government completes initial review of implementation of PPS25 and considers whether further measures are needed (7+8) Government completes review of right to pave over back gardens/commercial premises (9) Government invites first round of bids for flood resistance and resilience grants (12) Government defines new sewer standards (21) Publish Long Term Investment Strategy (23) Insurance For All: A good practice guide for providers of social housing revised and reissued (30)</p> <p><i>Being rescued and cared for during an emergency</i> Government issues amended Emergency Response and Recovery Guidance (41-43) Government issues guidance to Category 1 and 2 responders on operational expectations (44)</p>

Annex C Key dates timetable

<p>By 30 June 2009 (cont.,)</p>	<p><i>Maintaining power and water supplies and protecting essential services</i> Government establishes Natural Hazards Team, to counter the risks to national infrastructure from natural hazards; framework for action published (50-53) Operators complete reviews of flood risk to electricity, gas and oil sectors (50-53) Government issues direction on Reservoir Flood Plans; guidance on plans provided to reservoir undertakers; simple reservoir inundation maps produced (57)</p> <p><i>Better advice and help for people to protect their families and homes</i> Risk and Regulation Advisory Council implements review of how the public can improve their understanding of community risks, including from flooding (59) Government publishes strategy and action plan for supporting and encouraging people in emergencies (implementation from 2009/10 onwards) (70)</p> <p><i>Recovery</i> Government completes research on speeding up drying out and stabilisation after a flood (73) Government issues guidance on psychosocial and health impacts of flooding (74) Government clarifies roles of regional Government Offices, and provides training (from April 2009) (75) Government issues revised Concept of Operations document, including national recovery planning (77-78) Government issues revised National Emergency Response and Recovery Guidance, and National Recovery Guidance (66, 68, 79-82, 84-85, 92) Government provides first progress report on Pitt implementation 6 months thereafter (86) Inaugural meeting of National Resilience Forum (88)</p>
<p>By 31 December 2009</p>	<p><i>Knowing when and where it will flood</i> Environment Agency publishes research on extreme and multiple events (4)</p> <p><i>Reducing the risk of flooding and its impact</i> Government consults on new flood performance standards in Building Regulations (11) The Water Services Regulation Authority (OFWAT) sets price limits for water company investment in sewer flooding (22) Environment Agency publishes flood asset maintenance schedules (25) Government issues report on relationship between land management and flood risk (27)</p> <p><i>Being rescued and cared for during an emergency</i> Met Office introduces full Extreme Rainfall Alert service (33) Environment Agency provides flood information service for professional partners (34) Government implements review of minimum amounts of drinking water to be provided in an emergency (40) Highways Agency completes further work to reduce flood risk (45) Network Rail and Women's Royal Voluntary Service implement arrangements to support stranded rail passengers (46)</p> <p><i>Maintaining power and water supplies and protecting essential services</i> Natural Hazards Team produces plan to provide flood resilience to most critical sites (50-53) Government provides further reservoir inundation maps to Local Resilience Forums, with guidance and a template for producing off-site emergency plans (57)</p> <p><i>Better advice and help for people to protect their families and homes</i> Environment Agency undertakes refocused flood awareness campaign and help develop Community Flood Plans (60-61) Environment Agency extends flood warnings on an opt-out basis including to ex-directory numbers (62)</p> <p><i>Recovery</i> Recovery Co-ordinating Groups embed improved health and well-being arrangements in their procedures (74)</p>

Annex C Key dates timetable

By 30 June 2010	<p>Environment Agency/Met Office extend role of the Joint Centre (6)</p> <p>Environment Agency publishes System Asset Management Plans (high risk) (25)</p> <p>Government publishes the National Flood Emergency Framework (48)</p>
By 31 December 2010	<p>Environment Agency completes surface water mapping (5)</p> <p>Government amends Building Regulations to include flood performance standards (11)</p> <p>Government introduces new sewer standards (21)</p> <p>Environment Agency develops flood forecasting ability (34)</p> <p>Government completes funding of improved flood rescue capability (39)</p> <p>Table top and regional emergency exercises (49)</p> <p>Government introduces legislation to amend the Civil Contingencies Act 2004 (if necessary and subject to Parliamentary time) (54-56)</p>
By 31 December 2011	<p>Environment Agency makes available flood visualisation tools (37)</p> <p>Government holds national emergency exercise (49)</p> <p>Environment Agency makes available more personalised flood warning information (65)</p>
By 31 December 2012	<p>Environment Agency makes available flood visualisation data to Gold and Silver commands (36)</p>
By 31 December 2013	<p>Environment Agency makes available mapping on depth and velocity for all sources of flooding (33)</p>

Building Regulations the UK Building Regulations are statutory rules to set standards for the design and construction of buildings, primarily to ensure the safety and health for people in or around those buildings, but also for purposes of energy conservation and access to and about other buildings.

Business continuity planning planning to ensure critical functions continue in the event of a disruption.

Catchment an area that serves a river with rainwater, that is every part of land where the rainfall drains to a single watercourse is in the same catchment.

Category 1 Responder a person or body listed in Part 1 of Schedule 1 to the Civil Contingencies Act (CCA) 2004. These bodies will be at the core of the response to most emergencies. As such, they are subject to the full range of civil protection duties in the CCA.

Category 2 Responder a person or body listed in Part 3 of Schedule 1 to the Civil Contingencies Act 2004. These are cooperating responders who are less likely to be involved at the heart of multi-agency planning work across the board, but will be heavily involved in preparing for incidents affecting their sectors. The CCA requires them to cooperate and share information with other Category 1 and 2 responders.

Civil Contingencies Act (CCA) 2004 Legislation that aims to deliver a single framework for civil protection in the United Kingdom. The CCA is separated into two substantive parts: local arrangements for civil protection (Part 1) and emergency powers (Part 2).

Civil Contingencies Secretariat Cabinet Office unit working with Government departments, the devolved administrations and key stakeholders to help the UK prepare for, respond to and recover from emergencies.

Community Risk Register an assessment of the risks within an area agreed by the Local Resilience Forum as a basis for preparing emergency plans.

Compact the framework agreement for how the Government and the third sector should work together.

Critical national infrastructure the national infrastructure comprises those sectors that supply essential services to the citizen on which normal daily life depends. These are energy, water, communications, transport, finance, government, health, food and emergency services. The most important sites within these sectors, whose loss would have a major impact on the delivery of essential services, are deemed the critical national infrastructure.

Detention basin a vegetation depression in an open space that is normally dry except after storm events. They help to slow down the run-off rate and store water on a temporary short-term basis during extreme events.

Emergency (in the UK) an event or situation that threatens serious damage to human welfare in a place in the UK or to the environment of a place in the UK, or war or terrorism that threatens serious damage to the security of the UK.

Ensemble Running a weather prediction model a number of times with differing initial conditions to give outputs from which the most probable scenario can be derived.

Flood visualisation tools Tools providing a visual representation of a possible or predicted flooding event.

Gold command strategic decision-making group at the local level. They establish the framework within which operational and tactical managers work in responding to, and recovering from, emergencies.

Government Offices nine offices representing eleven Whitehall departments in the English regions.

Groundwater flooding occurs when water levels in the ground rise above the natural surface. Low-lying areas underlain by impermeable strata are particularly susceptible.

Home Information Pack a pack containing a set of documents that aims to provide home buyers with some of the information that they need to make an informed choice about a property they wish to buy.

Local Government Association (LGA) voluntary lobbying organisation to promote the interest of English and Welsh local authorities.

Local Resilience Forum (LRF) a forum in which Category 1 and 2 responders within a local police area work together to fulfil their duties under the Civil Contingencies Act 2004.

Multi-agency plan a plan, usually prepared and maintained by a lead responder, on behalf of a number of organisations that need to co-ordinate and integrate their preparations for an emergency.

Primary care trust (PCT) Statutory bodies in the NHS responsible for delivering health care in their local area.

Primary legislation main laws, for example Acts of the UK Parliament.

Probabilistic forecasting a weather forecasting technique that relies on different methods to establish the probability of an event's occurrence and/or magnitude.

Recovery the process of rebuilding, restoring and rehabilitating the community following an emergency.

Recovery Coordination Group The strategic decision-making body for the recovery phase. Able to give a broad overview and represent each agency's interests and statutory responsibilities.

Reservoir inundation map a map showing the area that might be flooded if a dam fails.

Resilience the ability of the community, services, area or infrastructure to withstand the consequences of an incident.

Revenue support grant Government grant to make up the shortfall between a local authority's Standard Spending Assessment and the amount it would receive from Council Tax for Standard Spending and redistributed business rates.

Risk measures the significance of a potential event (e.g. an emergency) in terms of likelihood and impact.

Risk assessment a structured and auditable process of identifying potentially significant events, assessing their likelihood and impacts, and then combining these to provide an overall assessment of risk, as a basis for further decisions and action.

Silver command tactical level of emergency management introduced to provide overall management of the response.

Statutory duty something required by law.

Surface water/runoff flooding occurs when the level of rainfall overwhelms the capacity of the drainage system to cope.

Sustainable Drainage Systems (SUDS) help to deal with excesses of water by mimicking natural drainage patterns.

Third sector Non public sector, non-profit making organisations such as voluntary and community organisations, charities, social enterprises, cooperatives and mutual organisations.

Typing A system of categorising rescue resources, allowing them to be identified and selected based on the outcome that they are able to achieve safely, rather than through a description of the organisation they represent or equipment they carry. The team is further categorised on its capability to carry out search operations in particular conditions, such as in still or flowing water.

Recommendation 1 (Page 32)

Given the predicted increase in the range of future extremes of weather, the Government should give priority to both adaptation and mitigation in its programmes to help society cope with climate change.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

As set out in the document *Adapting to Climate Change in England: a framework for action*, published in July 2008, the Government has already taken steps to ensure that policies and programmes take account of the impacts of climate change. For example, it has:

- established a rail industry forum to identify the challenges climate change presents;
- put in place a heat wave plan;
- published a supplement to Planning Policy Statement 1 on Planning and Climate Change;
- published guiding principles for conservation managers.

The Government has also made clear that it will play its full part in further reducing the risks.

To ensure a well co-ordinated approach to meeting the challenges of a changing climate, the Government has set up the cross-departmental Adapting to Climate Change (ACC) Programme for England to lead work that will help all organisations, in the public, private and voluntary sectors, to adapt. The Programme is in two phases. Phase One, from 2008-2011 will lay the groundwork necessary to implement Phase Two – a national statutory programme as required by the Climate Change Act.

The Programme brings together work on adaptation already being led by Government and the public sector, and will co-ordinate the development of the Government's work on adaptation in the future. The Programme's achievements to date include:

Ensuring the Climate Change Act sets out a strong legal framework for adaptation, and moving forward with preparations for its implementation we have put in place a framework on adaptation that will ensure we are well placed to meet the challenges of a changing climate. The provisions on adaptation in the Climate Change Act will help organisations at all levels be clear about their role and responsibilities in adaptation, and what action they ought to be taking to prepare themselves for a changing climate. Further details about exactly what the provisions are can be found below;

Sharing responsibility for adaptation across the Government climate change will affect nearly all sectors of the economy and communities to some degree. It is therefore important that the effort of adapting England to climate change is shared across the Government. A major challenge is to ensure that all Government Departments and Agencies review their policies and operations in the light of the risks of climate change, and the recently established cross-Government programme will help ensure this happens on a consistent and systematic basis;

Recommendation 1 (Page 32)

As an example of the work of the Programme, a cross-Government working group is now considering additional Green Book Guidance, in order to enable climate change adaptation to be built properly into the decision making process for future spending and investment proposals. Other areas that the Programme will consider are procurement, the Impact Assessment process, and how to ensure the Government estate is resilient;

Providing support and direction to local authorities The impacts of climate change will vary, even within a relatively local area, and action will need to be taken at the most appropriate level. The Programme is working with the local government community to assess and plan for the risks of a changing climate. To help local authorities to do this, we have introduced a national indicator on adaptation as part of the Local Government Performance Framework, which is designed to ensure continuous progress is made on adaptation within a local area (NI188). The Programme is also working with several partners including the UK Climate Impacts Programme, the Government Office network, local and regional organisations and Nottingham Declaration Partnership members through the Local and Regional Adaptation Partnership (LRAP) Board. The LRAP Board, chaired by the Government Office for London, is developing a programme of support on adaptation for local and regional bodies. The Board has made supporting the delivery of NI188, which 56 Local Areas have adopted as a priority, a focus for its work. The first stage of this has been nine regional workshops, held over autumn this year, focussing on sharing of approaches and current case studies and consultation and development of NI188 guidance;

Funding to the nine independent Regional Climate Change Partnerships (RCCPs)

The Programme has provided a cash boost to RCCPs of £450,000 in 2008-09, and made a further funding commitment covering 2009-2011. This additional funding is available to the partnerships to support their adaptation activities and enhance their existing programmes of work. For example, several regions will be using the funding to update existing regional adaptation studies with the forthcoming UKCIP climate scenarios. Others are carrying out projects on regionally specific issues in areas such as biodiversity, transport, schools and health;

Ensuring effective and timely dissemination of accessible information in July 2008, the ACC Programme launched an adaptation website, which is a hub of information about adapting to climate change, covering issues such as how the climate is likely to change, what the Government Programme is doing, and what is happening in the different regions of England. Each Department involved in the Programme has a dedicated page on this site that sets out what they have already done in relation to adaptation and their future plans. It also signposts users to other relevant sources of information, such as the UK Climate Impacts Programme (UKCIP). The website is regularly updated and can be viewed at www.defra.gov.uk/adaptation. It will provide further information about the elements of the Programme set out in this response;

Understanding the risks of a changing climate Work has already started on the national Climate Change Risk Assessment (CCRA) and Cost-Benefit Analysis. The CCRA is a result of the Climate Change Act and will provide robust analysis on the risks to the UK by region and sector. A stakeholder steering group has been established and the contract to carry out the CCRA scoping study has been awarded.

Adaptation in the Climate Change Act

Recognising the importance of adapting to climate change, the Government has addressed adaptation in the Climate Change Act. The Climate Change Act requires:

- a UK wide climate change risk assessment to take place every five years. The first such assessment must be presented to Parliament within three years, (i.e. by the end of 2011);

- that as soon as practicable after the risk assessment, a national statutory adaptation programme must be put in place, and reviewed every five years, to address the most pressing climate change risks to England;

- an Adaptation Sub-Committee of the independent Committee on Climate Change be created in order to oversee progress on the Adapting to Climate Change Programme and advise on the risk assessment.

The tender for a scoping study for the climate change risk assessment, and an accompanying cost benefit analysis, was let in September 2008. The contract for the full climate change risk assessment will be let in 2009, and there will be a public consultation on the draft report before it is presented to Parliament.

In addition, the Climate Change Act

- gives the Government the power to require public authorities and statutory undertakers to report on how they have assessed the risks of climate change to their work, and what they are doing to address these risks;

- the Government is required to publish a strategy outlining how this new power will be used, and identifying the priority organisations that will be covered by it;

- the Government will also provide statutory guidance on how to undertake a climate risk assessment and draw up an adaptation action plan.

The UK Climate Impacts Programme

The UK Climate Impacts Programme (UKCIP) is an advisory service which, since 1997, has been helping organisations make decisions on adapting to climate change. UKCIP:

- helps others understand the possible impacts of climate change, including a set of scenarios that show how our climate might change at a regional and national level;

- offers advice on adaptation;

- assists with research.

UKCIP focuses on making complex scientific information understandable and useful to stakeholders, and produces a large number of publications every year. Defra currently contributes around £900,000 a year to UKCIP.

Recommendation 1 (Page 32)

New Climate Projections

New climate projections have been commissioned by Defra and the UK Climate Impacts Programme from the Met Office Hadley Centre, among others. They will provide information, at a more local level than previously possible, on how the UK's climate will change over the 21st century. These will be a significant resource in assessing climate change risk at key points during the course of the century.

The new projections will provide climate information:

- for all 25 x 25 km UK land grid squares;
- for some aggregated regions, including administrative areas and river basin areas;
- for three future scenarios of greenhouse gas emissions (labelled as Low, Medium and High);
- for changes in monthly, seasonal, and annual averages, perhaps with additional information expected about changes to extreme events (e.g. hottest day of summer, wettest day of winter).

The new projections are due to be launched in Spring 2009.

How will implementation of this recommendation be funded?

As set out above.

Implementation Date

As set out above.

Recommendation 2 (Page 35)

The Environment Agency should progressively take on a national overview of all flood risk, including surface water and groundwater flood risk, with immediate effect.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency's strategic overview will involve their taking the lead in understanding, mapping and advising on all forms of flood risk; how best it can be managed by all public and private sector delivery agents; finding new ways of reducing flood risk; expanding their warning expertise to cover all forms of flooding; and generally co-ordinating and integrating flood risk planning from all sources whilst building on their existing delivery responsibilities for main rivers and the coast.

Full implementation will require appropriate resource and legislative backing from the Floods and Water Bill, the draft of which will be open to consultation in Spring 2009.

However, in advance of such legislation, the Environment Agency has already taken substantial initial steps to extend its roles for surface water and groundwater risk. This has included providing Local Resilience Forums with an initial set of maps of areas susceptible to surface water flooding. In addition, in July 2008 the Environment Agency and Met Office launched a six month trial to develop an Extreme Rainfall Alert Service for Category 1 and 2 Responders. Over 700 Responders have registered for the service, and the Agency and Met Office intend to continue with the service in 2009.

Giving the Environment Agency a strategic overview for all flood and coastal erosion risk management has been a shared aim of the Government and the Agency since publication of the First Government Response to *Making Space for Water* in 2005. We have already introduced a strategic overview role for the Environment Agency on the coast. They now manage all funding for capital sea flooding and coastal erosion projects and oversee the long-term planning and implementation of works programmes. Defra Ministers confirmed in June 2008 that the Agency should also operate a strategic overview in relation to inland flooding.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Any additional costs will be met by the prioritising spend and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

Action is being taken progressively in advance of primary legislation; the draft Floods and Water Bill will be published in Spring 2009.

Recommendation 3

The Met Office should continue to improve its forecasting and predicting methods to a level which meets the needs of emergency responders.

Government Response

The Government accepts this recommendation.

Implementation so far and next steps

The Met Office science programme continues to improve the accuracy and timeliness of weather forecasts to meet the needs of a range of customers, including emergency responders. In order to deliver additional improvements with specific benefits to flood risk management further research and development is required. We are proposing two additional pieces of research that would exploit planned investments in general capability improvements, but would focus on improving warning lead times of localised intense rainfall events by 6-12 hours.

This research will build on existing research in weather forecasting, but develop additional forecasting tools relating to flood risk management.

It is worth noting, however, that in order to unlock the full potential of high-resolution, intense rainfall forecasting for flood risk management, further investment in supercomputing is required. The likely additional cost of such investment could be between £6 million and £12 million per year with further work needed to quantify the benefits that this would deliver. It is not yet clear whether that level of investment represents best value for money for the emergency response community.

Key milestones:

detailed plans for each area of work by March 2009;

completion of a report on the feasibility and benefits of using radar derived winds to support the forecasting of severe precipitation by September 2009;

demonstration of capability to produce high resolution probabilistic forecasts by September 2009;

operational use of radar derived winds to support forecasting of severe precipitation by March 2010;

Operational use of thunderstorm resolving models by June 2010;

benefits of high resolution probabilistic forecasts assessed through case study review by March 2011;

benefits of hourly forecast updates assessed through case studies by March 2011;

capability for routine running of convective scale ensemble by March 2012;

capability for routine running of hourly update of very short range forecasts by March 2012.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be met from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations.

Implementation Date

The research projects can be implemented quickly following funding being made available. Incremental benefits will be delivered as the research progresses, with the full benefits realised after three years.

Recommendation 4 (Page 46)

The Environment Agency should further develop its tools and techniques for predicting and modelling river flooding, taking account of extreme and multiple events and depths and velocities of water.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Action to implement this recommendation will be taken forward through the Joint Defra/Environment Agency Flood Risk Science programme. That programme will continue to develop tools and techniques for predicting and modelling river flooding for a range of events, including extreme and multiple events. This work will develop new tools and considerably improve those already in development, to further enable the depth and velocity of water to be included in flood risk assessments.

The Environment Agency has already begun work to produce mapping for depth and, where appropriate, velocity in areas of higher risk to support the expected requirements on the Agency under the EU Floods Directive in 2013.

The Environment Agency is also undertaking work to model extreme and multiple events. This will improve their understanding of the likelihood, and impacts, of many different locations being affected by severe flooding. It will also consider the probability of widespread river flooding coinciding with high tides and storm surge events. Initial research findings will be available in September 2009 and will be further developed both to provide a useable tool and to cover all sources of flooding.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt recommendations and by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

Programme of delivery between 2008 and 2013.

Recommendation 5 (Page 51)

The Environment Agency should work with partners to urgently take forward work to develop tools and techniques to model surface water flooding.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency has put in place a national process to collect, digitise and store historic data relating to surface water flooding. This is due to be completed in 2010 after which they will continuously refine the data quality and the methodology for mapping surface water flood risk.

In the meantime, modelling and mapping work compiled by the Environment Agency in the past year has already identified areas susceptible to surface water flooding. That information has been supplied to Local Resilience Forums so they can understand better the risk of surface water flooding in their area, manage that risk, and plan for emergencies. This initial work provides a general indication of areas which may be more likely to suffer from surface water flooding than others; further improved modelling should be available in 2009.

The Environment Agency has also helped Defra develop guidance for producing Surface Water Management Plans (SWMPs) which will be a key tool in assessing and appraising options for better surface water management. This guidance should be available to Local Authorities by December 2008, after stakeholders have had an opportunity to comment.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations and by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

Programme of delivery between 2008 and 2013.

Recommendation 6 (Page 56)

The Environment Agency and the Met Office should work together, through a joint centre, to improve their technical capability to forecast, model and warn against all sources of flooding.

Government Response

The Government supports this recommendation.

This response also covers recommendation 35.

Implementation so far and next steps

Since the summer floods of 2007 and in the wake of the publication of the Pitt Review, the Environment Agency and the Met Office have been examining ways of working more closely together. A joint centre is being established to provide clearer and more consistent weather forecasts and information relating to flood response with extended lead times for Category 1 and Category 2 responders and staff. This new collaboration, bringing together hydrologists and meteorologists into one team, will provide an additional national forecasting capability, in support of regional and area delivery of local flood forecasts and flood warnings. The new joint centre is already being set up and will be fully operational by April 2009.

Detailed implementation is set out below.

From December 2008 the joint centre will start to be set up, providing operational services from 1 April 2009. The Joint Centre services will include:

- Meteorological forecast products to support Environment Agency and Met Office teams;
- Support to the production of the Daily National Flooding Outlook Statement (a four day forecast indicating potential flooding for the Government, the Welsh Assembly Government, and Category 1 responders);
- Support to the National Flood Warning Duty Officer, who liaises with multiple Government departments during flooding events;
- Extreme Rainfall Alert (ERA) service (initially still provided from Met Office, Exeter) which forecasts extreme and intense rainfall that may lead to surface water flooding (provided to category 1 and 2 responders). The joint centre will provide support to the production of the alerts and ultimately produce the alerts;
- Warnings (initially still produced from Met Office, Exeter) to the Environment Agency of rain or snow that could cause flooding from any source;
- Accelerated joint programme delivery. Ensuring the fastest available delivery of new capabilities;
- Single point of accountability for operational weather products and capability of delivery.

This will mean that the joint centre will have:

- Improved understanding of flooding events where flooding results from single or multiple sources;
- Better understanding, detail and accuracy of developing flood risk to help local decision making;
- The ability to provide improved notification periods;
- Primary responsibility for notifying government regarding impending flooding situations and to assign a level of severity which will invoke Government plans at a national level.

Recommendation 6 (Page 56)

The joint centre will provide a fully operational 24/7 service from London, and as further capabilities are developed, provide:

- Combined hydrological and meteorological real-time guidance products to support Environment Agency and Met Office teams;
- Real time visualisation of river levels;
- Two web portals – one secure and one open – providing appropriately visualised meteorological and flooding data;
- Storm Tide Forecasting Service outputs to alert the Environment Agency of expected coastal sea level surges, informing decisions to issue alerts to the public using the Environment Agency's flood warning system. This service is currently undertaken at Met Office, Exeter;
- Management of a science development programme to provide new capabilities and product improvements.

This will mean that in addition to the capabilities listed above the joint centre will have:

- Improved access to multiple events data;
- Ability to provide a real time picture of developing flood/inundation risk;
- Ability to provide a national focal point for operational incident response, 24/7;
- Ability to provide an early probabilistic alert service for most types of flooding;
- Strategic oversight of the direction of, and input into, detection and forecasting related projects in the joint Defra/EA programme.

From 1 April 2010 and beyond, the joint centre will build on and extend the services listed above to include:

- Visualisation of developing flood extents;
- National broad scale longer lead time probabilistic flood information;
- Ability to provide surface water flood forecasting;
- Ability to assess the impact of snow melt;
- Lead times of 5-10 days for rainfall forecast and consequent flood risk.

This will mean that in addition to the capabilities listed above the joint centre will have:

- Even greater lead times;
- Ability to provide real time telemetry information and overview for flood affected areas;
- Fast track developments to improve capabilities are realised;
- Further improvements to detail and accuracy of developing flood risk to help local decision making;
- Development of spatial network to support distributed flood forecasting.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Costs not covered by this funding will be met by prioritising spend and efficiency savings within existing budgets, which will be agreed at the appropriate time.

Implementation Date

The centre will be fully operational in April 2009.

Recommendation 7 (page 68)

There should be a presumption against building in high flood risk areas, in accordance with PPS25, including giving consideration to all sources of flood risk, and ensuring that developers make a full contribution to the costs both of building and maintaining any necessary defences.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government determines national policies on different aspects of planning and the rules that govern the operation of the system. National planning policies are set out in Planning and Minerals Policy Statements and Guidance notes. They should be taken into account by local planning authorities in preparing their Local Development Frameworks, and are capable of being material considerations in determining individual planning applications.

Planning Policy Statement 25 (PPS25) sets out the national planning policy on development and flood risk. This aims to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where development is, exceptionally, necessary in such areas, the policy aims to make it safe without increasing flood risk elsewhere and, where possible, to reduce flood risk overall. The policy also requires developers to fund any necessary flood defence and mitigation works.

In June 2008 the Department for Communities and Local Government (CLG) published practice guidance to support delivery of the policy. This emphasised how the policy applies to all forms of flooding, including surface water; and the policy approach to cover risks from, and the management of, surface water flooding.

CLG is working closely with local authorities, the Environment Agency and other stakeholders to ensure that the policy is properly implemented and delivered on the ground. Six regional seminars were held after the launch of the practice guide to reinforce the PPS25 policy messages to local authorities and other stakeholders. This is being followed up with a further three further regional workshops specifically for all Government Offices and Planning Inspectors, as well as conference presentations and workshops for a range of audiences.

How will the implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Recommendation 7 (page 68)

Implementation Date

June 2008 Publication of PPS25 practice guide.

Autumn 2008 and ongoing Promotion of PPS25 policy and supporting practice guidance through presentations, workshops, conferences.

By end December 2008 Hold three combined regional workshops with Government Offices and the Planning Inspectorate Agency.

Spring 2009 Revision of PPS25 practice guide to keep it fresh and up to date. This will reflect any clarification to PPS25 policy, the Government response to the Pitt Review and developments on the Future Water strategy including those relating to surface water management and Sustainable Drainage Systems (SUDS).

See also the response to **recommendation 8**.

Recommendation 8 (page 71)

The operation and effectiveness of PPS25 and the Environment Agency's powers to challenge development should be kept under review and strengthened if and when necessary.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government is currently reviewing how PPS25 is being implemented by local authorities, two years after it was published, to identify any barriers to delivery and whether any further measures are necessary.

The initial review will draw on:

- The annual reports produced by the Environment Agency and local government on the impact of the Environment Agency's technical advice on planning decisions made by local authorities;

- The research currently being carried out by Defra on Strategic Flood Risk Assessments;

- Information on the use of the call in requirements under the January 2007 Town and Country Planning (Flooding) (England) Direction. (These require planning applications for major development which a local authority is minded to approve, against continuing objections from the Environment Agency on flood risk grounds, to be referred to the Secretary of State for Communities and Local Government, to enable her to decide whether to call in the application).

How will the implementation of this recommendation be funded?

The costs and benefits of any further measures needed arising from the implementation of this recommendation will be subject to a full Impact Assessment.

Implementation Date

The Government aims to complete the initial review of the implementation of PPS25 by early 2009, and will use this to consider whether further measures are needed.

Recommendation 9 (page 72)

Householders should no longer be able to lay impermeable surfaces as of right on front gardens and the Government should consult on extending this to back gardens and business premises.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government has already introduced legislation to implement this recommendation in relation to front garden paving. With effect from 1 October 2008, the Government amended the Town and Country Planning (General Permitted Development) Order 1995 so that householders who wish to lay impermeable surfaces in their front gardens, where the surface area exceeds five square metres, will need to obtain specific planning permission.

The Government will consider whether similar action should be taken in respect of back gardens and commercial premises and whether to initiate a public consultation in light of research due before the end of 2008, along with advice from the Environment Agency. The interim results of this research informed policy on front garden surfacing.

How will the implementation of this recommendation be funded?

Any new policy would be subject to an Impact Assessment.

Implementation Date

Amendments to the Town and Country Planning (General Permitted Development) Order 1995 came into effect on 1 October in respect of front gardens. A decision on whether to consult on any new measures in relation to back gardens and business premises will be taken by Spring 2009.

Recommendation 10 (Page 73)

The automatic right to connect surface water drainage of new developments to the sewerage system should be removed.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government agrees that the unconditional ability to connect surface water drainage to the public sewer should be removed. Following responses to our consultation on Surface Water Drainage, we are considering how the current right to connect surface water to the sewerage system should be amended.

The Government agrees with the Pitt Review that a complete ban in all circumstances would not be appropriate and will set out proposals for amendments to the existing legislation in the draft Floods and Water Bill which the Government intends to publish in the next legislative session.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which sets out the costs and benefits of implementing the change.

Implementation Date

The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary Timetable. In the event of any delay to the Bill the Government will pursue with Ofwat an alternative approach of water and sewerage companies using existing powers to refuse connection. However, the Bill once law is intended to enable water companies to refuse connection except where there is no practicable alternative.

Recommendation 11 (page 77)

Building Regulations should be revised to ensure that all new or refurbished buildings in high flood-risk areas are flood-resistant or resilient.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Parts A and C of Building Regulations, and the associated guidance, address the requirements on structure and on resistance to contaminants and water (but not currently flooding) that have to be satisfied by most new and refurbished buildings. The Government is currently considering these requirements and how best flood performance could be included within amended Building Regulations. This would be subject to a full public consultation in Summer 2009 with agreed changes being introduced in Autumn 2010.

Research is currently underway to help inform this process. It will also help determine how to define a high flood-risk area to which requirements might apply, and what approaches should be taken towards different construction types.

How will the implementation of this recommendation be funded?

The cost of research and consultation activities will be met by the Department for Communities and Local Government from existing budgets.

Any costs (and benefits) of new Building Regulations measures to improve flood performance will be subject to a full Impact Assessment to accompany the consultation expected in Summer 2009.

Implementation Date

Subject to research and consultation conclusions, the Government would look to introduce changes in Building Regulations and guidance in October 2010. Any changes would be reviewed again in 2013.

Recommendation 12 (page 79)

All local authorities should extend eligibility for home improvement grants and loans to include flood resistance and resilience products for properties in high flood-risk areas.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Following a recent consultation the Government is launching a property-level flood protection grants scheme. At least £5 million has been allocated for these grants, which will cover the provision of a home flood survey and flood protection measures.

Local authorities will bid to the Environment Agency to fund local grant schemes. This approach, rather than the Home Improvement Grant (now called Area Based Grants) route, should enable greater certainty and targeting of the money.

The scheme will focus on providing support to households in England which face a particularly high risk of flooding but which are not protected by traditional community level defences.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations.

Implementation Date

A first round of bids from local authorities will be sought early in 2009, with further rounds in late 2009 and 2010, subject to resources and demand.

Recommendation 13 (Page 80)

Local authorities, in discharging their responsibilities under the Civil Contingencies Act 2004 to promote business continuity, should encourage the take-up of property flood resistance and resilience by businesses.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Local authorities have a duty under the Civil Contingencies Act 2004 to promote business continuity to commercial and voluntary organisations. The Government's statutory guidance *Emergency Preparedness* states that in implementing that duty, local authorities should reflect the risks contained in the Community Risk Register, such as flooding, and advise organisations how best to mitigate against these.

In addition the Government has emphasised the risks posed by flooding of all kinds in the National Risk Register, published in August 2008, which has made clearer the basic business continuity planning considerations for organisations and businesses.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

The Government has already taken action to support local authorities in implementing this recommendation.

Recommendation 14 (page 85)

Local authorities should lead on the management of local flood risk, with the support of the relevant organisations.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Local authorities will be key players in future flood risk management, particularly for surface runoff¹ and groundwater flooding, for which there is currently no responsible authority, and for managing its interaction with other sources of flooding.

Sir Michael makes it clear that success will depend on greater co-ordination and co-operation between local partners and the Government looks to them to work together closely to establish the most effective arrangements depending on local circumstances. At the same time, it is important that there is sufficient clarity for the public and stakeholders about accountability, while recognising the important contributions and expertise of the existing partners.

The Government believes that these objectives will be best met if new partnership arrangements are established to bring together county, unitary and district authorities, the Environment Agency, water companies and sewerage undertakers and other players including internal drainage boards to work together to secure effective and consistent management of local flood risk in their areas. It will be important that these partnerships are underpinned by a new duty on all partners to co-operate and share information. We would expect these organisations to work together to decide the best arrangements for delivery on an area by area basis, taking account of their current roles and capacities. Local authorities working together will have specific responsibilities for effective management of local flood risk from surface water run-off, groundwater and ordinary water courses.

We intend to give county and unitary authorities the leadership role in these partnerships, taking responsibility for ensuring that all relevant partners are engaged in developing a local strategy for flood risk management and securing progress in its implementation. This will build on their leadership role in Local Area Agreements, and will allow them to develop centres of engineering and flood risk expertise alongside their existing highways functions, providing support to other partners and promoting collaboration across the whole area. District councils have a key role with their land use planning functions in ensuring effective strategic flood risk assessments guide future development, and they will continue to be responsible for the management of ordinary watercourses (as will internal drainage boards where they exist) within the flood risk management strategy established for the area.

The new partnership arrangements will support greater collaboration in flood risk assessment and development of management plans, and sharing of expertise, supporting strategic engagement with the Environment Agency and water and sewerage companies. We will be consulting further on how these new arrangements will work, in particular how we can best build effective partnerships and delivery, and support collaboration in two tier areas.

¹ water from precipitation, ponding or running over the surface before it enters a watercourse or piped system

Recommendation 14 (page 85)

As noted, this recommendation will require primary legislation to implement and proposals will be set out in the draft Floods and Water Bill which the Government intends to publish for consultation in Spring 2009.

In the meantime, the Government will be writing to local authority chief executives, and leaders of the other relevant organisations, to encourage them to begin making the necessary plans for taking this recommendation forward within current legislative and administrative structures.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities of relevant organisations. Net new burdens on local authorities will be fully funded from the funding Defra is making available to implement the Pitt Review.

Implementation Date

The Government will write to local authority chief executives and others by 31 December 2008. The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 15 (page 86)

Local authorities should positively tackle local problems of flooding by working with all relevant parties, establishing ownership and legal responsibility.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

This recommendation is a key part of the future roles and responsibilities for flood risk management. The Government proposes that, as part of their role in relation to **recommendation 14**, local authorities will have a lead role in investigating local flooding incidents with all relevant parties to identify the source of the problem and where responsibility lies for addressing it.

This recommendation will require primary legislation to implement and proposals will be set out in the draft Floods and Water Bill which the Government intends to publish for consultation in Spring 2009.

In the meantime, the Government will be writing to local authority chief executives, and leaders of the other relevant organisations, to encourage them to begin making the necessary plans for taking this recommendation forward within current legislative and administrative structures. Action by local authorities following that letter will be monitored and appropriate further measures taken to support early progress.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities of relevant organisations. Net new burdens on local authorities will be fully funded from the funding Defra is making available to implement the Pitt Review.

Implementation Date

The Government will write to local authority chief executives and others by 31 December 2008. The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 16 (page 87)

Local authorities should collate and map the main flood risk management and drainage assets (over and underground), including a record of their ownership and condition.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

This recommendation is a key part of the future roles and responsibilities for flood risk management that local authorities will have under **recommendation 14**.

This recommendation will require primary legislation to implement and proposals will be set out in the draft Floods and Water Bill which the Government intends to publish for consultation in Spring 2009. Legislation will be informed by further work to identify what asset information is required and whether a risk based approach is suitable.

In the meantime, the Government will be writing to local authority chief executives, and leaders of the other relevant organisations, to encourage them to begin making the necessary plans for taking this recommendation forward within current legislative and administrative structures. Action by local authorities following that letter will be monitored and appropriate further measures taken to support early progress.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities of relevant organisations. Any net new burdens on local authorities will be fully funded.

Implementation Date

The Government will write to local authority chief executives and others by 31 December 2008. The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 17 (page 90)

All relevant organisations should have a duty to share information and co-operate with local authorities and the Environment Agency to facilitate the management of flood risk.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

This recommendation is a key part of the future roles and responsibilities for flood risk management. As noted in relation to **recommendations 14-16**, the Government proposes that local authorities will have a lead role in managing local flood risk and in investigating local flooding incidents with all relevant parties to identify the source of the problem and where responsibility lies for addressing it. Sharing information is central to making this role fully effective.

The Government therefore intends to include a provision in the forthcoming draft Floods and Water Bill requiring all bodies involved in flood and coastal erosion risk management to co-operate and share relevant information. A draft of that Bill will be published for consultation in Spring 2009. The Environment Agency is leading work on a draft protocol on data sharing. This will identify the types of information that are most relevant to managing flood risk, their owners, and other data handling issues such as size of data sets, formats and privacy aspects.

In the meantime, the Government will be writing to local authority chief executives, and leaders of the other relevant organisations, to encourage them to begin working together and making the necessary plans for taking this recommendation forward within current legislative and administrative structures. Action by local authorities following that letter will be monitored and appropriate further measures taken to support early progress.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities of relevant organisations. Net new burdens on local authorities will be fully funded from the funding Defra is making available to implement the Pitt Review.

Implementation Date

The Government will write to local authority chief executives and others by 31 December 2008. The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 18 (page 90)

Local Surface water management plans as set out under PPS25 and co-ordinated by local authorities should provide the basis for managing all local flood risk.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

This recommendation will be key to supporting the future role of local authorities in managing local flood risk.

Defra is currently developing guidance for surface water management plans (SWMPs) based on lessons learned from a series of integrated urban drainage pilots undertaken between December 2006 and April 2008. This guidance is being published in January 2009.

This recommendation will form part of the wider arrangements for local flood risk management (see **recommendation 14**) that the Government proposes. These will require primary legislation to implement and proposals will be set out in the draft Floods and Water Bill which the Government intends to publish for consultation in Spring 2009.

However, the Government is encouraging early action using existing legislative and administrative structures and £5m has already been allocated to funding priority SWMPs over the next three years. Locations for these early SWMPs are being announced in December 2008 on the basis of organisations' expressions of interest to participate. The Government expects initial testing of guidance to be completed by March 2009.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing changes to roles and responsibilities of relevant organisations. New burdens on local authorities will be fully funded from the funding that Defra is making available to implement the Pitt Review.

Implementation Date

Priority SWMPs are being funded in the three years up to and including 2010-11; the timetable for funding further Plans will be prioritised on the basis of future national risk assessments.

Recommendation 19 (page 92)

Local authorities should assess and, if appropriate, enhance their technical capabilities to deliver a wide range of responsibilities in relation to local flood risk management.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Local authorities will be key players in future flood risk management as set out under **recommendation 14**. This will require primary legislation and proposals will be set out in the draft Floods and Water Bill which the Government intends to publish for consultation in Spring 2009.

Adequate technical capability and resources will be essential for fulfilling that role and we look to local authorities to begin making the necessary preparations. Defra and the Local Government Association are currently undertaking a broad national survey of current flood risk management activity and capacity in local authorities but individual authorities will clearly need to consider their own specific requirements and how they can best work with others where expertise already exists, especially the district and unitary authorities and internal drainage boards.

The Government will therefore be writing to all local authority chief executives to encourage them to assess their current capability and begin making the necessary plans for taking on their local flood risk management role ahead of the primary legislative changes that will be necessary for full implementation of that role. The Government will follow up this letter to see if there are barriers to progress.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities of relevant organisations. Net new burdens on local authorities will be fully funded from the funding that Defra is making available to implement the Pitt Review.

Implementation Date

The Government will write to local authority chief executives and others by 31 December 2008. The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 20 (page 96)

The Government should resolve the issue of which organisations should be responsible for the ownership and maintenance of sustainable drainage systems.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Following responses to the Government's consultation on Surface Water Drainage, we intend that local authorities should be responsible for adopting and maintaining new build (and re-developed) sustainable drainage systems (SUDS) on highways and in the public realm.

The results of the consultation show that counties, districts and internal drainage boards (IDBs) each have a significant interest in the adoption and maintenance of SUDS. It will be important that, in two tier areas, district authorities (which are responsible for planning and building control) work closely with the county authorities (as part of their overall responsibility for local flood risk management see responses to **recommendation 14 and 18**). Effective collaboration will be important to ensure that sustainable drainage is a routine part of new development and SUDS built are suitable for adoption by local government.

We propose that county and unitary authorities should take formal responsibility for adoption to ensure that effective funding and maintenance arrangements are put in place for adopted SUDS. As appropriate, these authorities would use normal delegation arrangements to agree appropriate funding and maintenance arrangements with other bodies that reflect local circumstances and type of SUDS. We will be consulting further on how this would work and on sustainable funding to support these new arrangements. Full proposals on the SUDS arrangements will be set out in the draft Floods and Water Bill which the Government intends to publish in Spring 2009.

Meanwhile, the Government welcomes the initiative which local authorities and IDBs are already taking to explore and implement SUDS solutions. These efforts will be reinforced by the Government's decision that householders should no longer be able to lay impermeable surfaces on front gardens as of right (see **recommendation 9**).

How will implementation of this recommendation be funded?

Funding options for the long-term maintenance of SUDS are currently being explored. However, any net new burdens on local authorities would be fully funded.

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will set out the costs of implementing the changes to roles and responsibilities.

Implementation Date

The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable.

Recommendation 21 (Page 100)

Defra should work with Ofwat and the water industry to explore how appropriate risk-based standards for public sewerage systems can be achieved.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government intends to introduce mandatory standards for all new public sewers serving new developments. It will be important for organisations to consider these standards when they work together to produce surface water management plans. The Government intends that these should cover all types of flood risk management.

These new standards, currently being developed with the support of key stakeholders including the Department for Communities and Local Government, Ofwat, Water UK, the Home Builders Federation, the National Home Builders Council, the drainage industry and local government, will be finalised by June 2009 with a view to their application from 2010.

These standards and information from surface water management plans will feed into sewerage companies' risk-based approach to renew and improve the present sewerage system. Ofwat regulates sewerage companies to promote value, ensuring that sewerage consumers' interests are protected both now and in the future.

How will implementation of this recommendation be funded?

Costs of standards for new sewers will depend on the standards finally agreed but are not expected to be significant. We will have prepared an Impact Assessment by June 2009. The cost of upgrading existing sewerage systems will be met by the generality of sewerage company customers through their sewerage charges.

Implementation Date

We intend to have the standards for new public sewers in place by 2010. We are currently considering whether this is best done through the Floods and Water Bill, inclusion in the Building Regulations or under existing legislation. Upgrading of existing systems will depend on the timing of other drivers, such as surface water management plans. Priority surface water management plans are being funded in the three year period 2009-2011. The timetable for future surface water management plans will be prioritised on the basis of future national risk assessments.

Recommendation 22 (page 101)

As part of the forthcoming and subsequent water industry pricing reviews, Ofwat should give appropriate priority to proposals for investment in the existing sewerage network to deal with increasing flood risk.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government accepts that investment in the public sewerage network regulated by Ofwat needs to adapt to increases in flood risk. Flood risk is increasing due to development in flood prone zones and due to climate change.

In line with *Future Water: The Government's water strategy for England*, a holistic response is required that properly takes account of the costs and benefits offered by each component of surface water drainage. Increasing the size of sewers may be part of that approach. However, sewers will always have limited capacity to take surface water, and surface flow management is needed to mitigate the consequences of severe rainfall.

Since 2000, the water industry has reduced the flood risk from sewer flooding. This significant programme is likely to continue until 2015 and beyond. The increases in risk factors such as development in flood prone zones and climate change will be taken into account. The price limits set for 2000-05 included work to solve 4,500 sewer flooding problems.

The aggregate numbers of properties on the 1 in 10 and 2 in 10 at risk registers' for internal flooding from sewers has continued falling, from 9,274 in 2004-05 to just over 6,540 in 2007-08, and further reductions are expected by 2015. These reductions were determined using a risk based prioritisation. In general, the performance threshold adopted is for rainfall events which happen once in 30 years, the present sewer design standard.

In July 2008, *Preparing for the future* Ofwat's climate change policy statement was published. That set out Ofwat's assessment of drainage and climate change and recommended an approach to drainage standards for the future which includes considering an uplift for climate change based on Defra's guidance. The companies will take account of this policy and guidance, amongst other factors, when drafting their business plans for 2010-15.

In August 2008, companies submitted draft business plans to Ofwat for the PR09 price review. Around £1.6 billion capital investment, has been proposed to reduce sewer flooding in addition to investment to maintain current performance. Ofwat is currently scrutinising these draft plans.

How will implementation of this recommendation be funded?

The costs of the infrastructure investment potentially required that could be directly attributed to 'increasing flood risk' are as yet unclear. When Ofwat sets price limits in November 2009 for the period 2010-15, information about the costs of improving the performance of the current sewerage network will be available.

Implementation Date

Ofwat is reviewing the information provided by the water companies in their draft business plans to assess the level of investment for 2010-15. Companies will submit final business plans to Ofwat in April 2009 and Ofwat will set price limits for the period 2010-15 at the end of November 2009.

Some further policy actions may result from the progress of the Floods and Water Bill.

Recommendation 23

The Government should commit to a strategic long-term approach to its investment in flood risk management, planning up to 25 years ahead.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Secretary of State for Environment, Food and Rural Affairs announced on 25 June that the Government is developing a Long Term Investment Strategy for England. This will set out the Government's short, medium and long term strategic flood prevention aims; assess funding needs; and ensure effective and prioritised allocation of resources and delivery over the medium and long term in line with future Government spending rounds.

The investment strategy document is due to be published in Spring 2009. This will set out the outcomes that could be achieved based on an initial set of funding and policy scenarios over a 25 year period within England, taking into account the potential impacts of climate change. These will focus on managing the risk of flooding from rivers and the sea, as well as coastal erosion, over the next 25 years. Defra and the Environment Agency will also work with local authorities and others to better understand the risks, costs and benefits of managing surface and ground water flooding, with detailed analysis to be published at a later stage.

How will implementation of this recommendation be funded?

Costs for this activity are being accommodated within Defra's and Environment Agency's existing budgets.

Implementation Date

The Long Term Investment Strategy will be published in Spring 2009.

Recommendation 24 (page 116)

The Government should develop a scheme which allows and encourages local communities to invest in flood risk management measures.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government expects county and unitary local authorities, in their future local leadership role, to consider local priority works beyond those that can be afforded by the Environment Agency; and to work with communities and the Environment Agency to determine whether and how they should be funded.

Local authorities and communities already have a range of options available to them to supplement national funding for flood and coastal erosion risk management, to help pay for local schemes that do not meet national priorities but nevertheless would deliver significant direct benefits to local communities in terms of property values, insurance availability and terms, and economic and environmental sustainability.

Such local funding mechanisms include the use of existing local authority well-being powers; Environment Agency regional flood defence committee levies on counties and unitary authorities; and the Business Improvement District model. It could also include increases in council tax precepts (as perused by Gloucestershire County Council, see Pitt Review, page 113) where these are affordable and in the best interest of local communities.

In addition, the Environment Agency is publishing a new external contributions policy. This sets out the circumstances under which the Environment Agency will routinely expect contributions towards the costs of schemes from direct beneficiaries, such as local businesses and communities. The policy also describes what influence these contributions could have on the scope and timing of the works to be completed.

How will implementation of this recommendation be funded?

Costs for local priority schemes would be met by local communities at their discretion.

Implementation Date

Schemes that allow and encourage local communities to invest in flood and coastal erosion risk management already exist. In addition, the Environment Agency is publishing a new external contributions policy.

Recommendation 25 (Page 120)

The Environment Agency should maintain its existing risk-based approach to levels of maintenance and this should be supported by published schedules of works for each local authority area.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency will continue to take a risk-based approach to levels of maintenance of the main river, coastal and tidal assets for which it is responsible.

From 2009-10 the Agency will also publish definitive maintenance information, after consulting regional flood defence committees and other local stakeholders, which will increasingly be linked to the development of the Long Term Investment Strategy.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

The Environment Agency will complete flood risk System Asset Management Plans for all high risk systems by the end of March 2010 and for other systems by the end of March 2011.

The Environment Agency aims to publish maintenance schedules during 2009-10 and to report on the current research and development project on Performance based Asset Management in early 2009.

Recommendation 26 (Page 126)

The Government should develop a single set of guidance for local authorities and the public on the use and usefulness of sandbags and other alternatives, rather than leaving the matter wholly to local discretion.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency has guidance on the use of sandbags, which are one of a number of measures that can be used to protect individual properties and bolster community defences. This guidance will be updated by the Agency and made available to the Government, the public and local authorities by February 2009.

The Environment Agency is developing additional guidance in the form of self-help home protection measures for householders, businesses and building contractors who may fit them. This guidance will be developed by Summer 2009.

What are the Costs?

Minor costs will be borne by the Environment Agency out of existing budgets.

Implementation Date

Target date February 2009.

Recommendation 27 (Page 130)

Defra, the Environment Agency and Natural England should work with partners to establish a programme through Catchment Flood Management Plans and Shoreline Management Plans to achieve greater working with natural processes.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency is leading a working group which includes Defra, Natural England, the National Trust, the Royal Society for the Protection of Birds and Wildlife and Countryside. The Group will define a programme of work by December 2008.

The Secretary of State announced that Defra would invest £500,000 (since increased) in demonstration projects to investigate their value in reducing flood risk and delivering wider benefits. Full business cases for four projects are being drawn up and one or more projects will be selected in December.

Defra and the Environment Agency are building the evidence for the relationship between land management and flood risk:

- An analysis of historical data on impacts of land use and management change on flood generation will be published before Christmas;

- EA led work to identify the catchments where land management change is most likely to reduce flood risk will be completed by March 2009;

- Work on the potential environmental benefits of flood storage areas will report in September 2009.

Defra will commission an evaluation of the first round of Catchment Flood Management Plans (CFMPs) in January 2009. This will include an assessment of how effective CFMPs may be in achieving greater working with natural processes.

How will implementation of this recommendation be funded?

£560,000 has been allocated to projects to demonstrate the value of working with natural processes.

Implementation Date

The joint working group will report by December 2009. The results of the demonstration project will be known in 2011. For other dates and milestones see above.

Recommendation 28 (page 139)

The forthcoming flooding legislation should be a single unifying Act that addresses all sources of flooding, clarifies responsibilities and facilitates flood risk management.

Government Response

The Government supports this recommendation, subject to the Parliamentary and legislative timetable.

Implementation so far and next steps

The draft Floods and Water Bill, which the Government intends to publish for consultation in Spring 2009, will address the key areas for improving flood risk management as identified in the Pitt Review. These include the Environment Agency's new strategic overview role; the role for local authorities in managing local flood risk including surface water; and strengthening reservoir safety legislation.

The Government recognises the advantages of producing a single unifying Act but the definitions of the different roles and responsibilities are spread across four main Acts. Given the scale of the task, it may not be possible to bring all these provisions together in one place. Final decisions on the scope of the draft Bill have not been taken.

Work is in hand in preparing measures for the draft Bill.

How will implementation of this recommendation be funded?

The costs of preparing and managing the Bill will be met through existing budgets.

Implementation Date

The draft Floods and Water Bill will be published in Spring 2009. Introduction of the final Bill and its scope depends on the Parliamentary timetable.

Recommendation 29 (page 146)

The Government and the insurance industry should work together to deliver a public education programme setting out the benefits of insurance in the context of flooding.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government agrees that it is important that people are made aware of the benefits of insurance in the context of flooding. The Government and industry are working together to increase the take-up of insurance, particularly for home contents.

The Government's focus is on actions to promote demand for, and awareness of, home contents insurance by working with local authorities, social landlords and other potential intermediaries.

The Government has provided £12 million to deliver a Financial Inclusion Champions initiative in 2008-11. The Financial Inclusion Champions will work with housing associations and social landlords in specific geographical areas to promote and support the supply and take-up of insurance schemes targeted at social tenants. In parallel to this, the Association of British Insurers (ABI) has set out its plans to engage in practical activity to promote greater take-up of insurance by people on lower incomes.

ABI advice for small businesses (Insurance for Small Businesses: a guide to protecting your business) was launched jointly with the Department for Business, Enterprise and Regulatory Reform in April 2008.

How will implementation of this recommendation be funded?

The Government's costs for implementing this recommendation will be met by the Department for Work and Pensions as part of the Champions Initiative.

Implementation Date

The Financial Inclusion Champions work is programmed to continue to 2010-11.

Recommendation 30 (page 150)

The Government should review and update the guidance 'Insurance for all: A good practice guide for providers of social housing' and disseminate it effectively to support the creation of insurance with rent schemes for low income households.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Department for Communities and Local Government (CLG) and HM Treasury (HMT) will work with the Tenant Services Authority (TSA), the new independent agency that will assume the Registered Social Landlords regulation function of the Housing Corporation in December 2008, to follow up the recommendation. HMT will set the parameters for reviewing 'Insurance for all' and provide the policy context for it. Where communities or businesses can work together to provide lower cost insurance schemes, the Government encourages this approach.

In the meantime Zurich Municipal is aiming to produce an online good practice guide to business continuity and resilience planning. The TSA will have some editorial input and the Government would expect TSA to assist in promoting it to landlords as guidance, without a formal funding/ownership role.

How will the implementation of this recommendation be funded?

The costs associated with implementing this recommendation, which cannot be identified at this stage, will likely be met from the TSA's budget and other resources.

Implementation Date

To be agreed with TSA following work by HMT and CLG.

Recommendation 31 (page 151)

In flood risk areas, insurance notices should include information on flood risk and the simple steps that can be taken to mitigate the effects.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government is working with insurers to make sure that they have access to information on flood risk. Detailed discussions on flood risk information were held during the review of the statement of principles and regular dialogue is continuing to ensure a clear understanding of the information available.

A joint work plan to facilitate better communication of flood risk to the public and insurers has been prepared by the Environment Agency and the Association of British Insurers (ABI). The Environment Agency has agreed to provide a more accurate National Flood Risk Assessment for river and coastal flooding to ABI members by January 2009 and to undertake an annual review thereafter. It will also provide data to identify locations that are expected to benefit from improved flood defences within the duration of the revised 'ABI statement of principles', to the same timescale as the National Flood Risk Assessment. This information will also be available from the Environment Agency website.

How will implementation of this recommendation be funded?

There are no costs for the Government associated with implementing this recommendation.

Implementation Date

Some insurers already include flood risk information, where appropriate, with renewal notices and this is expected to become increasingly widespread with the availability of improved data.

Recommendation 32 (page 162)

The insurance industry should develop and implement industry guidance for flooding events, covering reasonable expectations of the performance of insurers and reasonable actions by customers.

Government Response

Government supports this recommendation.

Implementation so far and next steps

The Association of British Insurers (ABI) and Chartered Institute of Loss Adjustors (CILA) have prepared guidance on the claims process and the timescales and steps involved in repairing flood damaged homes. This will be made available to the public in the event of a major flood. This is not intended to be widely available in advance of major flooding, but will be disseminated by the ABI and their members in response to such an event.

The Government is encouraged by the work that the insurance industry has already undertaken and will continue to work with insurers on wider concerns around public communication (see **recommendation 29**).

How will implementation of this recommendation be funded?

The costs associated with implementing this recommendation will be met by the ABI and CILA.

Implementation Date

The guidance was launched by the ABI at their conference on 18 June 2008 and is expected to be made widely available in the event of major flooding events.

Recommendation 33 (Page 167)

The Environment Agency should provide a specialised site-specific flood warning service for infrastructure operators, offering longer lead times and greater levels of detail about the velocity and depth of flooding.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

In July 2008, the Environment Agency and Met Office launched a pilot Extreme Rainfall Alert (ERA) service to forecast and warn of extreme events to help organisations manage local flooding impacts. The primary beneficiaries of the service are Category 1 and 2 emergency responders who ultimately serve the public.

The ERA project has been designed to provide longer lead times for flood warnings than are generally available. The Environment Agency is also developing work to provide depth and velocity information and this will be available for all sources of flood risk in 2013.

The six month ERA pilot will be appraised at the end of the year and is expected to continue within the work of the Environment Agency/Met Office joint centre (see **recommendation 6**).

The Environment Agency is currently working closely with operators of infrastructure to identify their sites at risk and provide them with appropriate flood warnings, via the Floodline Warnings Direct system and also in summary form by e-mail and fax. A Flood Information Service is being developed which will provide them with earlier flooding information.

Developments in probabilistic flood forecasts being progressed by both the Joint Centre (at a national scale) and the Environment Agency (at a regional scale), will enable earlier flood warnings, following which new services will be discussed with infrastructure operators and appropriate warnings provided.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets of the Environment Agency and the Met Office.

Implementation Date

The ERA pilot was launched in July 2008; full service will be in place in 2009. Velocity and depth information for all sources of flood risk will be available in 2013.

Recommendation 34 (Page 168)

The Met Office and the Environment Agency should issue warnings against a lower threshold of probability to increase preparation lead times for emergency responders.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Met Office implemented an upgrade to its National Severe Weather Warning Service (NSWWS) in March 2008. The new warning service is based on a traffic light system, with yellow and amber advisories giving advance warning of the need for vigilance triggered at a lower threshold of probability than before. In addition, a red warning has been introduced to warn of extreme events that will lead to major disruption. The traffic light approach allows the Met Office to convey a more useful message to responders and the public in a clear and authoritative way. Feedback has been positive. The joint centre will also develop information services which give warnings on a broader scale or provide earlier warning.

The Environment Agency has been developing, and will continue to develop, new techniques for producing regional probabilistic flood forecasts through its science programme. An implementation plan is currently being produced. Full implementation of this, for rivers and the seas, is planned for 2010-12. However, the Environment Agency will adopt techniques in 2009-10 which will improve further its current regional flood forecasting ability.

In the interim period, the Environment Agency is planning to implement a flood information service for its professional partners by Autumn 2009. This will provide them with much earlier information on flood forecasts and potential impacts and will enable them more time to prepare.

How will implementation of this recommendation be funded?

Through planned investment in science and implementation through normal channels.

Implementation Date

Delivery will be over four years, completing in 2012.

Recommendation 35 (Page 169)

The Met Office and the Environment Agency should issue joint warnings and impact information on severe weather and flooding emergencies to responder organisations and the public.

Government Response

The Environment Agency and Met Office have addressed these needs through their response to **recommendation 6**.

Implementation so far and next steps

Implementation is a component of the plan that delivers the needs of **recommendation 6**.

How will implementation of this recommendation be funded?

See **recommendation 6**.

Implementation Date

See **recommendation 6**

Recommendation 36 (Page 171)

The Environment Agency should make relevant flood visualisation data, held in electronic map format, available online to Gold and Silver Commands.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The necessary hardware and training will be in place by 2009 to make relevant flood visualisation data held in electronic map format available to Gold and Silver Commands.

Since the floods in 2007, the Environment Agency has undertaken work to ensure that trained and rostered executive managers are swiftly deployed as Liaison Officers to Gold Command during major incidents. An in depth training and development programme is now in place to provide improved engagement from the Environment Agency for a prolonged event. The Environment Agency's Incident Management System project, due for delivery by end of 2012, will consolidate existing visualisation tools and standardise the software providing visualised information to Gold Command.

Further analysis and funding is required to ensure that the participants can receive the visualisation online at Gold and Silver Commands and that the use to which the visualisations will be put to is understood by all. Work to analyse the arrangements at Gold Commands has commenced, and it is expected to conclude in June 2009.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations and by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

Delivery over four years completing in 2012. By June 2009 the Environment Agency will have defined the Incident Management System and agreed the development programme. Also by this date, the Environment Agency will have improved our existing visualisation capacity by providing visualisation data in electronic format to Gold and Silver Commands.

Recommendation 37 (Page 172)

The Environment Agency should work with its partners to progressively develop and bring into use flood visualisation tools that are designed to meet the needs of flood-risk managers, emergency planners and responders.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency already has a number of flood visualisation tools available and is working to further develop and unify the approaches and software it employs. Improved capability in flood visualisation will draw on new mapping and modelling information as it is further developed.

The Environment Agency is identifying what visualisation tools are required to help decision makers during an incident. This will include the provision of 'live' information to strategic and tactical control centres. A list of solutions and a delivery plan will be available by June 2009. Continued development of the tools will be required until 2011.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be met by the Environment Agency.

Implementation Date

Options will be defined by June 2009. Implementation in 2011.

Recommendation 38 (Page 181)

Local authorities should establish mutual aid agreements in accordance with the guidance currently being prepared by the Local Government Association and the Cabinet Office.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

In January 2008 the Government established a working group to take forward the development of guidance to promote and support local authority mutual aid arrangements. The group is chaired by the Local Government Association, and has local authority chief executives and emergency planning practitioners among its members.

Following consultation with local authorities, it is anticipated that the guidance will be published on the UK Resilience website and in booklet form in December which will help local authorities to establish protocols and arrangements both locally and with a view to setting up arrangements between regions.

The Government fully agrees that in the future, arrangements between authorities should go much wider than their county or region. The Government also accepts that before providing mutual aid an assessment should be conducted by an authority on the impact providing aid may have on responding to its own level of preparedness, and that the financial aspects of providing assistance should be fully addressed beforehand in written agreements. Advice on both these issues will be included in the guidance.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

The draft guidance is currently being amended in light of comments received during consultation. The guidance will be published in December 2008.

Recommendation 39 (Page 190)

The Government should urgently put in place a fully funded national capability for flood rescue, with Fire and Rescue Authorities playing a leading role, underpinned as necessary by a statutory duty.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

An assessment of flood rescue capability has been carried out by most Local Resilience Forums (LRFs) in the last 12 months. Several Fire and Rescue Services and other emergency response organisations have made some enhancements to their training and flood rescue capability following the summer 2007 floods.

The Government agrees the need for a properly funded national capability for flood rescue. The Department for the Environment, Food and Rural Affairs (Defra) has set up a project, working with the UK Search and Rescue Strategic Committee and relevant partner organisations (including the Maritime and Coastguard Agency, Royal National Lifeboat Institution, the Fire and Rescue Service, Royal Air Force and the Police) to improve significantly flood rescue capability and co-ordination between the agencies concerned. That will include delivering some additional assets where appropriate.

The project will agree, across all the relevant organisations, common standards for training and accreditation and for flood rescue assets. The United Kingdom Search and Rescue Strategic Committee will provide technical and operational advice to the project.

The priority for the Government is to put in place a co-ordinated multi-agency flood rescue capability as soon as possible. In light of the findings of the project on a national capability for flood rescue, the Government will consider further how the role of the organisations involved might be clarified or enhanced, and whether there is a need for statutory underpinning for the role of any of the agencies involved.

How will implementation of this recommendation be funded?

Initially £2 million is being made available from the funding Defra set aside for the implementation of the Pitt Review. The project will also determine the scale of the enhancements that need to be made in the longer term.

Implementation Date

The Defra-led project began in November 2008. Delivery milestones and outputs in the short, medium and longer term will be identified by February 2009 (this will include the development of Flood Rescue standards and team typing multi-agency operating procedures; common training/accreditation; and multi-agency command/co-ordination procedures).

By May 2009 the project will have created a multi-agency, national register of flood rescue assets. A draft UK Flood Rescue operating procedure will be ready by the Autumn 2009. Any additional assets required will be procured before the winter of 2009-10. Flood rescue will be exercised during the national flood exercise in 2011.

Recommendation 40 (page 200)

Defra should amend emergency regulations to increase the minimum amount of water to be provided in an emergency, in order to reflect reasonable needs during a longer-term loss of mains supply.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

A review of the notification and guidance on alternative water supplies, issued under the Security and Emergency Measures Direction, is under way.

A Working Group of key stakeholders was established and work is now in the final stages. The work programme has included a review of current practice elsewhere in Europe in the phasing and quantities of alternative supplies of drinking water during a range of water emergencies. Revised draft guidance is being finalised prior to consultation with key stakeholders.

The Working Group's recommendations are not expected to require any new funding arrangements. As part of the process of developing their business plans for OFWAT's current price review, companies are also developing proposals for improving the resilience of their water supply and distribution networks.

How will implementation of this recommendation be funded?

Companies already have a duty to provide alternative supplies during an emergency and they invest accordingly (in such things as mobile and static water tanks to help distribute fresh water in such circumstances). Ofwat sets water price limits which reflect the duties and obligations of water and sewerage companies and, where appropriate, changes in the measures required under those duties.

Implementation Date

Final revised guidance to be issued early in 2009.

Recommendation 41 (Page 206)

Upper tier local authorities should be the lead responders in relation to multi-agency planning for severe weather emergencies at the local level and for triggering multi-agency arrangements in response to severe weather warnings and local impact assessments.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government believes that this recommendation should be adopted locally. It will be reflected as good practice in Government guidance on local emergency preparedness and response arrangements.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Implemented at local level. This will be included as part of a wider review of the cross-Government Emergency Response and Recovery Guidance . Work has begun on a number of areas and, following consultation, publication is provisionally expected in Spring 2009.

Recommendation 42 (Page 207)

Where a Gold Command is established for severe weather events, the police, unless agreed otherwise locally, should convene and lead the multi-agency response.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government believes that this recommendation should be the default position unless alternative arrangements are agreed locally. It will be reflected as good practice in Government guidance on local emergency preparedness and response arrangements.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

This will be implemented at local level. This will be included as part of a wider review of the cross-Government Emergency Response and Recovery Guidance . Work has begun on a number of areas and, following consultation, publication is provisionally expected in Spring 2009.

Recommendation 43 (Page 207)

Gold Commands should be established at an early stage on a precautionary basis where there is a risk of serious flooding.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

We support this recommendation and believe that it should be adopted locally. It will be reflected as good practice in central Government guidance on local emergency preparedness and response arrangements.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

This will be implemented at local level. Publication of updated Emergency Response and Recovery Guidance is provisionally expected Spring 09.

Recommendation 44 (Page 208)

Category 1 and 2 responders should assess the effectiveness of their emergency response facilities, including flexible accommodation, IT and communications systems, and undertake any necessary improvement works.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government recognises the importance of maintaining resilient emergency response facilities. We are currently developing a check-list to help local responders to establish and assess the effectiveness of emergency facilities. This check-list will form part of a wider package which will clarify what is expected of responders in implementing the Civil Contingencies Act and wider capability building activity. This will form an expectation set. It will also provide indicators of good practice to support continuous improvement in emergency preparedness.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

There should be ongoing assessment of emergency response facilities at local level. The full expectation set (which includes the operational expectations) will be launched in January/February 2009.

Recommendation 45 (Page 219)

The Highways Agency, working through Local Resilience Forums, should further consider the vulnerability of motorways and trunk roads to flooding, the potential for better warnings, strategic road clearance to avoid people becoming stranded and plans to support people who become stranded.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Highways Agency has been developing its knowledge of vulnerable areas and will have identified which parts of the Highways Agency network are vulnerable to flooding by the end of December 2008. Professionally qualified Emergency Planning Officers' are being recruited and will be in place by December 2008, improving the Highways Agency's ability to plan in advance of events and increase co-ordination during an event. They will each have a deputy and will manage all aspects of the Highways Agency's policy under the Civil Contingencies Act 2004.

Work is also underway to install emergency crossover points at locations along the motorway network, so that 'trapped traffic' can be released, particularly in vulnerable areas.

The Highways Agency recently held a joint exercise with West Mercia Local Resilience Forum (LRF) to test the plans that West Mercia LRF developed after the floods, in particular their evacuation plan, and the Highways Agency Emergency Customer Welfare Policy.

The Highways Agency has also taken steps to improve their own external communications, including the launch of an awareness campaign. Prioritised media training has been delivered to key staff, with twelve courses delivered since July 2007 and more to follow. All key operational staff, including Press Officers, have been issued with Blackberries and encrypted laptops to improve communications, especially during emergencies.

The 'Aware and Prepare' campaign was launched in August 2008 as the 'Don't Be That Guy' campaign. The campaign is aimed at encouraging drivers to take responsibility for their journey, planning their route journey, servicing their vehicles and preparing for an emergency. The campaign is promoted through Kwik-Fit, National Tyres, Spar Petrol forecourts, Eurotunnel, Moto and the Royal Automobile Club, in addition to two short radio campaigns and the campaign website. People will be encouraged to follow the guidance through a limited run of discount offers on emergency kits and car services.

To support this, the Highways Agency website (www.highways.gov.uk) has been enhanced to include two new features – a Breaking News scrolling update, highlighting road closures/openings and a Network Status Report, giving an overview of a major incident affecting multiple routes or more than one region.

How will implementation of this recommendation be funded?

The costs associated with implementing this recommendation will be met by the Highways Agency.

Implementation Date

31 December 2009.

Recommendation 46 (Page 222)

The rail industry, working through Local Resilience Forums, should develop plans to provide emergency welfare support to passengers stranded on the rail network.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Department for Transport has agreed with Network Rail that, as the owners of the rail infrastructure, they are best placed to implement this recommendation. In any incident Network Rail undertake a risk assessment of the best method of ensuring the safety of any passengers involved in the incident. Network Rail, in partnership with the Women's Royal Voluntary Service (WRVS), has a system in place to allow passengers stranded on the network to be given food, drink and any necessary items where conditions require.

However, in such cases Network Rail's priority is to remove passengers from trains, stations and other related areas as soon as it is safe to do so. In most cases being able to reach stranded passengers to provide them with food etc will mean that they are able to evacuate them. In those rare cases where people can be reached but not evacuated, the WRVS will deliver provisions to support workers and passengers as early as possible.

A recent review by Network Rail and WRVS confirmed that this service is available across the network.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

This system is already being implemented.

Recommendation 47 (Page 226)

The Ministry of Defence should identify a small number of trained Armed Forces personnel who can be deployed to advise Gold Commands on logistics during wide-area civil emergencies and, working with Cabinet Office, identify a suitable mechanism for deployment.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

There are already arrangements whereby the Ministry of Defence (MOD) can be approached, and access to MOD resources agreed, through liaison officers who attend meetings of local and regional resilience forums, and crisis management groups. These resources include military and other MOD personnel with a wide range of experience, expertise and knowledge and who can be made available to supplement the resources of front-line responders in circumstances where these are stretched.

The Ministry of Defence and Cabinet Office have reviewed these arrangements to see whether they could be improved by identifying specific individuals with specific skills who could be available to Gold Commands in an advisory capacity. They have concluded that the existing arrangements are flexible enough to respond to an emergency much as they did during 2007, and other different circumstances that may arise in future.

As part of wider arrangements for logistic planning in an emergency, the MOD and Cabinet Office will develop the existing central mechanisms to ensure military/MOD and other relevant expertise is available in an advisory capacity where existing local or regional arrangements are, or are likely to become, severely stretched.

How will implementation of these recommendations be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

This resource is already available. Cabinet Office and MOD will agree a formal protocol for activation by end 2008.

Recommendation 48 (Page 230)

Central government crisis machinery should always be activated if significant wide-area and high-impact flooding is expected or occurs.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The core arrangements are already in place and are set out in the Central Government Arrangements for responding to an Emergency – Concept of Operations. These are well established and exercised. The Defra Lead Department Plan for flooding sets out the levels of engagement based on the levels of emergency.

However, further work on triggers and thresholds, specifically in relation to flooding, will be developed and introduced as part of the National Flood Emergency Framework (NFEF).

Key milestones for this further work are:

- Consultation on the scope and scale of work to be done on a National Flood Emergency Framework – by 31 December 2008;

- Consultation events in each of the Government Office regions – by 31 March 2009;

- Completion of the National Flood Emergency Framework – by 30 June 2010;

- Testing of arrangements through national exercises, including a major national-level exercise in early 2011.

What are the Costs?

Minimal additional costs. Staff time input to consultation and preparation of the NFEF.

Implementation Date

The core arrangements are already in place. Trigger levels for flood emergencies will be consulted on from December 2008. The NFEF will be complete by 30 June 2010.

Recommendation 49 (Page 233)

A national flooding exercise should take place at the earliest opportunity in order to test the new arrangements which central government departments are putting into place to deal with flooding and infrastructure emergencies.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Based on the timetable for development of the National Flood Emergency Framework, an exercise to test the new arrangements has now been added into the National Resilience Exercise Programme for 2011.

Major national level national exercise on flooding has been programmed in for Spring 2011.

Key milestones are:

- Consultation on the scope and scale of work to be done on a National Flood Emergency Framework by 31 December 2008;

- Consultation events in each of the Government Office regions by 31 March 2009;

- Completion of the National Flood Emergency Framework by 30 June 2010;

- Programme of regional and national table top exercises over course of 2010;

- Major national level exercise in early 2011.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be met from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets of Defra and/or the Environment Agency.

Implementation Date

Table top and regional exercises during 2010 and 2011. National exercise to be completed in early 2011. Lesson learned exercise will take some months to complete thereafter.

Recommendation 50 (Page 244)

The Government should urgently begin its systematic programme to reduce the disruption of essential services resulting from natural hazards by publishing a national framework and policy statement setting out the process, timescales and expectations.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

In response to Sir Michael Pitt's interim report, the Government agreed the need to introduce a systematic, co-ordinated, cross-sector campaign to reduce the disruption caused by natural hazards to critical infrastructure and essential services. In March 2008 the Government published a National Security Strategy identifying an increase in the frequency and intensity of extreme weather events as a potential threat to individual citizens. These changes will arise both in the short term and as the effects of climate change are felt in the longer term. In the Summer, the Government published a National Risk Register specifying and weighing the main risks arising from natural hazards in the medium term.

The Government will now:

Establish a Natural Hazards Team charged with co-ordinating efforts to identify and counter the risks to national infrastructure from natural hazards. In the first instance, this will be taken forward within the Cabinet Office, through the Civil Contingencies Secretariat. The team will be recruited as soon as possible so that the new team can begin, in the New Year, to develop a National Framework and Policy Statement, and engage interested parties; The framework and policy statement, setting out the process, timescales and expectations will be published as early as possible in 2009;

In the short term, the systematic programme will co-ordinate the early assessment of the vulnerability and risk of flooding in the most critical elements of national infrastructure and action summarised in sector resilience plans, as proposed in Sir Michael Pitt's **recommendations 51 and 52**;

The team will work with economic regulators to develop guidance on how they can support a national programme of cross-sector resilience building, to be produced in the first half of 2009; this relates to Sir Michael Pitt's **recommendation 53**, which recognises that it would take time to legislate for a new duty or powers to ensure resilience is built in critical infrastructure but recommends that the Government issue interim guidance to that end.

How will implementation of this recommendation be funded

The costs of implementing this recommendation will be funded by Defra and the Cabinet Office. Costs to infrastructure sectors in the short-term are not known at this stage. In the longer-term resilience building is expected to be integrated into the periodic review cycles of the economic regulators. Impact Assessments will be conducted once the extent of the required work is known.

Implementation Date

The team will be established towards the end of 2008 and the National Framework and Policy Statement will be published in early 2009. Plans to provide flood resilience to the most critical sites should be in place by the end of 2009.

Relevant government departments and the Environment Agency should work with infrastructure operators to identify the vulnerability and risk of assets to flooding and a summary of the analysis should be published in Sector Resilience Plans.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency has held a significant number of discussions with Local Resilience Forums and emergency services about the critical infrastructure in their areas. The Environment Agency has also provided extensive advice to operators of critical national infrastructure, working closely with the utilities sector.

The Department of Energy and Climate Change has instigated a survey and review of the resilience of the electricity, gas and oil sectors to flood risks. In the case of electricity, work is well advanced to identify and develop additional resilience measures on a site specific basis. In the telecommunications industry the distributed network largely provides the necessary service resilience.

The oil and gas industries have a high level of confidence in the inherent resilience of their infrastructure. However, both industries are reviewing the remaining risks to identify precautionary measures. The review in the gas industry will be completed by March 2009; the oil industry review is part of a wider exercise for which the timetable has not been finalised.

The Natural Hazards Team established under **recommendation 50** will co-ordinate efforts across all Critical National Infrastructure sectors to ensure resilience standards are consistent and the initial assessment of vulnerability and risk of assets to flooding will be summarised in sector resilience plans by the end of 2009.

How will implementation of this recommendation be funded?

The Environment Agency is currently dealing with this work on a cost recovery basis, or have absorbed the work within existing work streams. Should a significant number of additional operators come forward then new resource would be needed for operational delivery.

Implementation Date

Ongoing.

Recommendation 52 (Page 258)

In the short-term, the Government and infrastructure operators should work together to build a level resilience into critical infrastructure assets that ensures continuity during a worst case flood event.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Implementation of this recommendation will be governed by the national resilience plan as part of the systematic, cross-government programme described in the response to **recommendation 50**. In the meantime, while the Natural Hazards Team is being established, the water and electricity sectors are already undertaking work that will contribute to sector resilience plans in this area (see **recommendation 51**). This has included the purchase of 1.2km of relocatable defences by National Grid, the purchase of temporary defence kits by several utilities companies and the development of defences around Walham and Castle Mead sub-stations, which were affected by the floods last year.

How will implementation of this recommendation be funded?

Costs to infrastructure sectors and who should bear them are not known at this stage. Preliminary analysis of available data suggests large-scale flood resilience building will be limited to a small number of sites, while longer-term resilience building is expected to be integrated into the periodic review cycles of the economic regulators. Impact Assessments will be conducted when appropriate.

Implementation Date

Water and electricity sector resilience plans have already begun to be implemented (see **recommendation 51**). Progress in these and other sectors will be addressed according to the timetable of the systematic programme established under **recommendation 50**.

Recommendation 53 (Page 265)

A specific duty should be placed on economic regulators to build resilience in the critical Infrastructure.

Government Response

The Government supports the aims of this recommendation.

Implementation so far and next steps

As para 16.16 of Sir Michael's Review recognises, it may take time to legislate for a new duty or powers to ensure resilience is built in critical infrastructure. In the short term, the Government recognises the importance of providing guidance to regulators to encourage resilience building by critical infrastructure owners.

In the case of the water sector, the statutory Social and Environmental Guidance to Ofwat published in draft in February of this year, and in final form in September, made clear that water companies in their business plans are expected to consider the resilience of their assets and that Ofwat is expected to ensure that companies are able to invest in essential works. Ofwat has also issued guidance for water companies on flood risk assessment and identification of priority investments in preparation for the 2009 price review. The proposals in company business plans are now being scrutinised by Ofwat as part of the price review for 2010-15.

There are already specific duties on Ofgem in the Electricity Act 1989 and the Gas Act 1986 to protect the interests of customers in respect of continuity of supply. These duties allow Ofgem to consider proposals to improve resilience during the electricity and gas companies' price reviews. Ofgem has taken an active role in recent work to assess the resilience of electricity substations to flooding, and has asked the companies to bring forward associated investment proposals for consideration in their forthcoming five year price review. The success of these arrangements in improving the electricity and gas sector's resilience to flooding will be taken into account by the Government when considering the need for additional obligations on the economic regulator.

Further work in this area will be taken forward as part of the systematic, cross-Government programme described in **recommendation 50** for resilience of critical national infrastructure, with economic regulators being key stakeholders in developing a rigorous approach to assessing risk and identifying cost beneficial investment priorities.

How will implementation of this recommendation be funded?

Costs to infrastructure sectors in the short-term are not known at this stage. In the longer-term resilience building is expected to be formally integrated into the periodic review cycles of the economic regulators. Impact Assessments will be conducted once the extent of the required work is known.

Implementation Date

Guidance for economic regulators is intended to be published by mid-2009 with further action to be established under the systematic programme set out for **recommendation 50**.

Recommendation 54 (Page 280)

The Government should extend the duty to undertake business continuity planning to infrastructure operating Category 2 responders to a standard equivalent to BS 25999, and that accountability is ensured through an annual benchmarking exercise within each sector.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government recognises the importance of business continuity management planning in this context, in particular in relation to infrastructure operators as Category 2 responders under the Civil Contingencies Act 2004 (CCA).

The Government is reviewing how the Act (and its accompanying regulations and guidance) can be improved. As part of this, we will consider how best to standardise the level of business continuity management planning, including considering whether to extend to Category 2 responders the duty to undertake business continuity management planning. It will also assess how the delivery of the duty could be better aligned to the principles set out in BS 25999, as well as reviewing performance management measures to ensure that this duty is implemented to the required standard.

How will implementation of this recommendation be funded?

Extending the duty would create a cost to Category 2 responders in the private sector. However, it is too early in the programme of work on the CCA to give an indication of what this might be. Impact Assessments will be conducted when appropriate.

Implementation Date

The review of the CCA will be conducted through the Civil Contingencies Act Enhancement Programme (CCAEP), which will be split into four phases over the next three to four years:

- Phase 1 improving the Existing Framework by Spring 2009;
- Phase 2 looking at further scope for change through to the end of 2009 (including changes to duties on Category 2 responders);
- Phase 3 focusing on changes to legislation if required (from 2010 onwards dependent on Parliamentary time);
- Phase 4 any implementation from 2010 onwards.

Duties on Category 2 responders will be considered in Phase 2 of the Enhancement Programme, with any legislative changes being taken forward in Phase 3.

Recommendation 55 (Page 293)

The Government should strengthen and enforce the duty on Category 2 responders to share information on the risks to their infrastructure assets, enabling more effective emergency planning within Local Resilience Forums.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government recognises that the sharing of information between responders is of critical importance to the resilience of the UK. In doing so it must strike a balance between sharing information and protecting information that is sensitive for security reasons.

The Government encourages work to facilitate the sharing of information between responders through Local Resilience Forums and looks to Category 1 and 2 responders to ensure that they fulfil their duties in this respect under the Civil Contingencies Act 2004 (CCA) and its regulations.

The Government is reviewing how to improve the effectiveness of the duties under the CCA, including whether the existing information sharing duty is sufficient or should be strengthened.

How will implementation of this recommendation be funded?

It is too early in the programme of work on the review of the CCA to give a clear indication of the impact, but there may be costs for the private sector companies. Impact Assessments will be conducted when appropriate.

Implementation Date

See the timetable for reviewing the CCA set out in the response to **recommendation 54**.

Recommendation 56 (Page 298)

The Government should issue clear guidance on expected levels of Category 2 responders' engagement in planning, exercising and response and consider the case for strengthening enforcement arrangements.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government recognises the importance of issuing clear guidance for responders across the whole range of resilience activities. We are therefore currently developing an expectation set to provide additional clarity about what is expected of both Category 1 and 2 responders in relation to all Civil Contingencies Act 2004 (CCA) duties and regulations. This will clarify the requirements on co-operation between Category 1 and 2 responders. We will consult Category 2 responders on the proposals.

As part of the planned Civil Contingencies Act Enhancement Programme, the Government will consider the case for strengthening enforcement arrangements. In addition to considering possible changes to the law the Government will clarify how intervention and enforcement will work within existing law. This work will form part of a wider Civil Contingencies performance management strategy that considers a range of techniques for improving performance.

How will implementation of this recommendation be funded?

The costs associated with implementing this recommendation as a result of the new guidance will be funded by Category 2 responders.

Implementation Date

The expectation set for local responders should be disseminated by the end of 2008.

The timetable for reviewing the CCA is set out in the response to **recommendation 54**.

Recommendation 57 (Page 306)

The Government should provide Local Resilience Forums with the inundation maps for both large and small reservoirs to enable them to assess risks and plan for contingency, warning and evacuation and the outline maps be made available to the public online as part of wider flood risk information.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Work is on track in the Environment Agency to provide inundation maps to Local Resilience Forums (LRFs) by the end of 2009. All large reservoirs will be mapped at a basic level by mid-2009. The basic maps will be shared with LRFs whilst more detailed mapping of higher risk reservoirs continues.

Thirteen reservoirs were mapped as part of a trial to establish a suitable method of mapping. A further 36 reservoirs will have been mapped by the end of December 2008 in a pilot study with a representative sample of reservoirs, before the national mapping starts in early 2009. This process will determine how best to produce meaningful maps for the LRFs.

The maps that LRFs will receive will show the potential extent of the area that might be flooded from a dam failure. The Emergency Services and other Category 1 responders will also receive information on the potential characteristics of the inundation together with guidance and a template for preparing off-site Emergency Reservoir Flood Plans. This guidance is currently being drafted. A phased programme of specific off-site planning will then be developed, focussing on the highest risk reservoirs first.

The Government agrees that outline maps should be made available to the public in an accessible manner, within the context of wider flood risk information. Guidance will be provided to LRFs and reservoir undertakers on this aspect, and they will be responsible for ensuring that communities and the public are properly informed, bearing in mind the challenge of making information available in a way that avoids the risk of misinterpretation or misuse.

How will implementation of this recommendation be funded?

£500,000 will be made available in 2009-10 and £750,000 in 2010-11 to support the production of specific off-site Emergency Reservoir Flood Plans. The Government will ensure that any net additional costs of taking forward the work relating to this recommendation will be met in full.

Implementation Date

As described above.

Recommendation 58 (Page 310)

The Government should implement the legislative changes proposed in the Environment Agency biennial report on dam and reservoir safety through the forthcoming flooding legislation.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government accepts the need to improve the efficacy of the Reservoirs Act 1975, as amended, and is developing proposals for revised legislation. It intends to include these in the draft Floods and Water Bill, which we plan to publish in Spring 2009. This work also takes account of the requirements of the EU Floods Directive and the need to introduce a Ministerial Direction to reservoir undertakers on the preparation of flood emergency plans.

How will implementation of this recommendation be funded?

The costs associated with this recommendation will be determined in the Impact Assessments which will be completed in relation to the Bill and the Ministerial Direction.

Implementation Date

The draft Floods and Water Bill will be published in Spring 2009; introduction of the final Bill depends on the Parliamentary timetable. Ministerial Direction on reservoir flood plans to be phased in on a risk-based approach from Autumn 2009.

Recommendation 59 (Page 316)

The Risk and Regulation Advisory Council should explore how the public can improve their understanding of community risks, including those associated with flooding, and that the Government should then implement the findings as appropriate.

Government Response

The Government accepts this recommendation and will consider the findings of the Risk and Regulation Advisory Council (RRAC).

Implementation so far and next steps

Following the recommendation from the Pitt Review, the Risk and Regulation Advisory Council is now exploring the issue of risk communication. It is doing this in various ways:

i. Reviews of research on the key players involved in changing society's perception of risks

It has already started this work, and has commissioned a series of research reviews examining the roles that various groups – such as the media or insurers – have to play in society's understanding of risk. One of these pieces of work looks in particular at the role of the public, including where they get their information on risks from, and how they use and interpret this information;

ii. Spotlight events looking at the key players

Based on this research, the Council expects to hold small events with certain key players in influencing society's view of risks, to better understand their perspectives and roles;

iii. Academic partnership to develop risk communication guidance

The Council will be recruiting an academic to work with them and the Government Office of Science to synthesise the current research, and develop guidance on risk communication for policy makers.

The Council is exploring the value of running an event to look specifically at the issue of risk communication. This would build on the key findings from the Council's research programme, the spotlight events and other topics the council is investigating.

The results from this event would feed into guidance on risk communication for policy makers, as well as into the RRAC's final messages for Ministers.

How will implementation of this recommendation be funded?

The cost of implementation will be supported by the funding that Defra is making available to cover the cost of implementing the Pitt Review.

Implementation Date

The RRAC will complete implementation of this recommendation by April 2009.

Recommendation 60 (Page 318) and Recommendation 61 (Page 319)

The Government should implement a public information campaign which draws on a single definitive set of flood prevention and mitigation advice for householders and businesses, and which can be used by media and the authorities locally and nationally.

The Environment Agency should work with local responders to raise awareness in flood risk areas and identify a range of mechanisms to warn the public, particularly the vulnerable, in response to flooding.

Government Response

The Government supports these recommendations.

Implementation so far and next steps

The Environment Agency's ongoing public information campaigns to raise awareness amongst those at risk of flooding are being re-focused and significant changes will be made in 2009 in light of the Pitt Review.

The Environment Agency will communicate clear flood prevention and mitigation messages to householders and businesses. In 2009, the Environment Agency will work with a number of Local Resilience Forums (and associated local authorities) to cascade information to those at risk while also using media coverage to raise public awareness of flooding as a serious issue.

During 2008 the Environment Agency has developed new ways of getting the flood awareness message out. In October audio versions of its three flood guides were launched with the help of the Royal National Institute of Blind People.

Those at risk of flooding will be able to register on-line for Floodline Warnings Direct (FWD) from early 2009. People and businesses at high risk will also be encouraged to sign up to FWD through campaigns running from February through to May.

To inform its campaign the Environment Agency will continue to measure and evaluate the at risk' population's awareness of river and tidal flooding and the actions that they should take during all stages of flooding. This will be extended to reflect the Environment Agency's new role for other forms of flooding including from surface water.

In 2009, the Environment Agency will help Local Resilience Forums (LRFs) develop quality assured Community Flood Plans. The Community Risk Registers prepared by LRFs will be used to target planning work on the areas at most risk. Indicative mapping of areas at risk from surface water flooding was provided by the Environment Agency to all local authorities in August 2008 to help this work cover all flood risk.

Action can also be taken locally. Gloucestershire County Council has produced a comprehensive website with flood information, specifically a 'Flood Guide' that was sent to residents which provides information about what happened last Summer, safety advice, information on flood defences and useful contacts. It also includes an emergency pull out guide, with practical advice and help in case of emergencies (website: www.gloucestershire.gov.uk/index.cfm?articled=19445).

Recommendation 60 (Page 318) and Recommendation 61 (Page 319)

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

In the period to end 2009.

Recommendation 62 (Page 320)

The Environment Agency should work urgently with telecommunications companies to facilitate the roll-out of opt-out telephone flood warning schemes to all homes and businesses liable to flooding, including those with ex-directory numbers.

Government Response

The Government supports this recommendation

Implementation so far and next steps

The Environment Agency is currently putting in place a Floodline Warnings Direct (FWD) service for 800,000 properties at high risk of flooding from rivers and the sea. The FWD forms part of the Environment Agency's wider Flood Warning Service which covers 1.3 million properties in England and Wales.

The Environment Agency is now automatically registering properties with landlines to receive these flood warnings where the information required is publicly available. The Government and Environment Agency agree with the need to extend the arrangements to include an opt-out approach, including for properties with ex-directory numbers.

Recent legal advice has now cleared the way for ex-directory subscribers to be provided with warnings on an opt-out basis. The Environment Agency is working with the relevant telecommunications companies on the technical issues so that these important warnings will be fully operational for ex-directory clients by the end of 2009.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations and by prioritising spending and efficiency savings within existing budgets of the Environment Agency.

Implementation Date

By end of 2009.

Recommendation 63 (Page 324)

Flood risk should be made part of the mandatory search requirements when people buy property, and should form part of Home Information Packs.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government accepts the need to ensure that potential home buyers are aware of any flood risks to homes they are considering buying.

The flood search is currently an 'authorised' document in a Home Information Pack which means that it can be included where it is appropriate in areas where there is a risk of flooding. The Government believes that there needs to be a simple arrangement for identifying where further investigation, such as a full flood search, might be worthwhile.

Consultation closed at the end of September 2008 on proposals for a new 'Property Information Questionnaire' (PIQ). This questionnaire would be a mandatory element of the HIP and completed by all home owners planning to market their homes to give useful information to a potential buyer.

Within this, the Government now proposes to include the following questions:

- Q1 Are you aware of any flooding of your property since you have owned it, or before? If 'yes' please give details.
- Q2 Have you checked the freely available flood risk data at the Environment Agency's website (www.environment-agency.gov.uk etc)
 - (i) If yes, please give details;
 - (ii) No. [*The buyer is advised to check the EA website for an indication of flood risk in the area.*]

These questions will ensure that the prospective buyer receives, or is prompted to find, information on the degree of flood risk affecting the property they are considering buying.

Initially, the Environment Agency website will only contain information on the risk of flooding from main rivers and the sea, but over time this will be extended to cover all sources of flood risk.

What are the Costs?

Costs of this arrangement are minimal and ensure that further costs will only be incurred by potential house buyers where there is need to do so.

Implementation Date

Home Information Packs will include a PIQ from 6 April 2009.

Recommendation 64 (Page 331)

Local Resilience Forums should continue to develop plans for door-knocking, co-ordinated by local authorities, to enhance flood warnings before flooding and to provide information and assess welfare needs once flooding has receded.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Local Resilience Forums (LRFs) are responsible for implementing this recommendation.

Category 1 responders are required under the Civil Contingencies Act 2004 and the associated regulations to maintain arrangements to warn and inform the public if an emergency is likely to occur or has occurred. Door knocking is one of a variety of methods available to responders and stakeholders for alerting the public and is covered in the statutory Guidance Emergency Preparedness .

No single warning system will be the right thing in all situations or be able to warn everyone. A variety of methods will always be necessary to alert as many people as possible or assess their needs and, in particular, to alert vulnerable groups (e.g. the hard of hearing and the elderly etc). Local responders need to assess which methods are most suitable in a given situation, taking account of local circumstances, and cover this in flood emergency plans prepared by LRFs.

Door knocking works when telecommunications and power may be down, the Police can give instructions to the public. Those responsible for buildings, or building managers, can communicate with tenants, which allows the public to receive messages from a known (and generally trusted) source. At the same time, Category 1 responders know that door-knocking may require large numbers of people for it to be effective, which may be difficult to sustain for anything other than short periods. Therefore, Category 1 responders will need to consider this carefully when planning and reviewing arrangements for communicating with the public. They will also need to think about the safety of those door knocking as well as those being warned; i.e. to ensure that it takes place well before flooding is expected.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

For LRFs to consider as part of their local flood emergency plans.

Recommendation 65 (Page 334)

The Met Office and the Environment Agency should urgently complete the production of a sliding scale of options for greater personalisation of public warning information, including costs, benefits and feasibility.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Environment Agency and the Met Office are working to develop more customised warnings, and ways of getting them out, in quickly evolving situations. Outline proposals will be available in December 2008 with further milestones set out below.

Since the Pitt Review, the Environment Agency has initiated a review of the flood warning service it provides to the public and its partners. The Agency has identified improvements that will be made by Autumn 2009, gearing the service to become more personalised to people's needs.

How will implementation of this recommendation be funded?

The costs of implementing this recommendation will be supported from the funding Defra is making available to cover the cost of implementing the Pitt recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets which will be agreed at the appropriate time.

Implementation Date

2008/09

Further research will be carried out to inform the development and trialling of options;

2009/10

Website improvements;

Initial trialling and refinement of new IT systems;

2010/11

Implementation.

Recommendation 66 (Page 338)

Local authority contact centres should take the lead in dealing with general enquiries from the public during and after major flooding, redirecting calls to other organisations when appropriate.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government agrees that it is sensible to have a local contact centre, which is well-known to the public, to deal with general enquiries during emergencies and to redirect calls to other organisations as appropriate. This is vital to avoid confusing members of the public who need to know how best to get the information needed in a timely manner. The Government recognises that many local authorities already have facilities which could provide this service.

However, it is important that local responders have the flexibility to identify the best solution for the situation at the time. This is why the Civil Contingencies Act 2004 (CCA) and supporting guidance does not prescribe specific means of meeting this requirement. The Government therefore expects local authorities and other Category 1 responders to consider how best to achieve this in fulfilling the communicating with the public requirements of the CCA; this may involve identifying a lead agency to co-ordinate warning and informing efforts for particular emergencies.

The Government is currently considering whether further guidance is needed on this issue.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

The Government will consider whether further specific guidance to local authorities is required after publication of updated Emergency Response and Recovery Guidance (expected Spring 2009).

Recommendation 67 (Page 339)

The Cabinet Office should provide advice to ensure that all Local Resilience Forums have effective and linked websites providing public information before, during and after an emergency.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Good communication between responder bodies should include development of joint programmes for providing general information and to make the appropriate links to other relevant sites. The Cabinet Office seeks to share good practice on website content, and will consider whether further guidance on this subject is necessary by Spring 2009.

Category 1 responders are required under the Civil Contingencies Act 2004, and the associated regulations, to make the public aware of the risks of emergencies and how they are prepared to deal with them if they occur. This can be achieved by a variety of different methods including the internet. Whilst some Local Resilience Forums have specific websites, many rely on local authorities and other bodies to have websites and literature which provide generic advice on emergencies, or detailed advice specific to their own areas of responsibility. The Cabinet Office recognises that it is important to avoid duplication of effort and for information to be available where the public will expect to find it. We will reflect this in considering whether further guidance is necessary.

How will implementation of this recommendation be funded?

Update of Government guidance no new burden on local authorities.

Implementation Date

The need for further guidance will be considered by Spring 2009.

Recommendation 68 (Page 344)

Council leaders and chief executives should play a prominent role in public reassurance and advice through the local media during a flooding emergency, as part of a co-ordinated effort overseen by Gold Commanders.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government will include guidance on this as part of the update of Emergency Response and Recovery expected in Spring 2009.

Category 1 Responders have a duty under the Civil Contingencies Act 2004 to ensure that they have arrangements to warn the public if an emergency is likely to or has occurred. In an emergency, public information through the media will be provided by a range of local individuals and organisations. However, the local authority has a prominent role to play during an emergency, and in the recovery phase is often likely to be the lead organisation. Senior level engagement with the media to provide public information demonstrates both the seriousness with which the authority is taking the situation, and provides a degree of consistency of response throughout the emergency. The Government therefore intends to provide improved advice through updated Emergency Response and Recovery Guidance.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Publication of updated Emergency Response and Recovery Guidance expected Spring 2009. Ongoing implementation at local level.

Recommendation 69 (page 351)

The public should make up a flood kit including personal documents, insurance policy, emergency contact numbers (including local council, emergency services and Floodline), torch, battery or wind-up radio, mobile phone, rubber gloves, wet wipes or antibacterial hand gel, first aid kit and blankets.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Taking this forward is a matter for individuals. The Government will consider how this can be promoted nationally through other awareness work identified in this response. See responses to **recommendations 60 and 61**.

How will implementation of this recommendation be funded?

Costs of making up such kits will be for the individuals concerned. The costs associated with awareness raising will be funded in the same way as the actions set out for **recommendations 60 and 61**.

Implementation Date

The Environment Agency already encourages those at risk of flooding to be prepared and make up a flood kit. This message will remain central to their ongoing campaign and communication with the public.

Recommendation 70 (Page 355)

The Government should establish a programme to support and encourage individuals and communities to be better prepared and more self reliant during emergencies, allowing the authorities to focus on those areas and people in greatest need.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The National Security Strategy, published in March 2008, stated that the Government would consider what contribution it could make to support and extend existing community resilience activity around the UK; that is, communities and individuals harnessing local resources and expertise to help themselves, in a way which complements the response of the emergency services.

In the winter of 2008-09, we are holding three workshops bringing together people who are interested in setting up or supporting new community resilience schemes, and those involved in existing projects to enable us to learn from their experiences and design a programme of work to support other communities in taking forward similar activities.

We have already received expressions of interest in the workshops from almost 500 people. These include individual members of the public as well as representatives from parish and town councils, Neighbourhood Watch groups, charities such as Disaster Action, the National Federation of Women's Institutes, Category 1 and 2 Responders and others.

The workshops will help us develop a Strategy and Action Plan for supporting community resilience work. This will be published in spring 2009 for implementation from 2009-10 onwards.

In advance of these workshops, we are engaging with Community Resilience projects that are already underway. For example, we are offering support to a project run by Essex County Council, Nottinghamshire County Council and their Beacon Authority partners, to develop guidance and supporting materials to raise awareness of emergency preparedness issues in schools.

We are also engaging with the BBC who are planning to run a media campaign in early 2009 to raise community awareness of emergency preparedness and resilience issues.

How will implementation of this recommendation be funded?

It is too early in the policy development phase to predict costs. New burdens assessments will be made when appropriate.

Implementation Date

Workshops to be held in December 2008 (Bristol), January (Manchester) and February 2009 (London); a Strategy and Action Plan to be published in spring 2009 for implementation from 2009-10 onwards.

Recommendation 71 (Page 358)

The Department of Health and relevant bodies should develop a single set of flood-related health advice for householders and businesses, which should be used by all organisations nationally and locally and made available through a wide range of sources.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Health Protection Agency (HPA) has agreed a definitive set of health advice for flooding situations.

The focus is on ensuring there is a single set of official advice that is consistent across the Government and its agencies and widely available to the public. The approach will be to obtain the agreement of all agencies and relevant Government departments to put links on their website sites for flood-related health advice through to the HPA site. We will also look to ensure that the National Recovery Guidance includes the relevant links.

Local Government Association representatives have confirmed that local authorities should be able to access the official guidance via the website links.

How will implementation of this recommendation be funded?

There are minimal new costs associated with implementing this recommendation.

Implementation Date

By 31 December 2008 relevant parties are expected to have been contacted and made the links to the HPA website.

Recommendation 72 (Page 363)

Local response and recovery co-ordinating groups should ensure that health and wellbeing support is readily available to those affected by flooding based on the advice developed by the Department of Health.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government has drafted the relevant health and wellbeing advice. It will ensure that local Response and Recovery Co-ordinating Groups (RCGs) have access to this guidance, and can use it to underpin their provision of support to those affected.

Website links will provide access to the advice developed as part of **recommendation 71**. Details of the links to the guidance will be reflected in the National Recovery Guidance as well as being referred to on other government department's websites.

The Local Response and Recovery Co-ordinating Groups include representatives from Local Authorities, Primary Care Trusts (PCTs) and voluntary groups. The Department of Health will ensure that PCTs specifically (as members of the RCGs) are aware of, and have access to, the single official guidance and that it can be shared with other RCG members.

How will implementation of this recommendation be funded?

Costs are expected to be minimal.

Implementation Date

By 31 December 2008 all relevant parties are expected to have been made aware of the guidance and the links to it on the Health Protection Agency website.

Recommendation 73 (page 365)

The Government, the Association of British Insurers and other relevant organisations should work together to explore any technological or process improvements that can be made to speed up the drying out and stabilising process of building recovery after a flood.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Defra and the Department for Communities and Local Government (CLG) has issued a commission for a desk based study to look at current knowledge and guidance and how it might be used better.

This study will also advise if further research is needed to improve knowledge and guidance. It will report early in 2009. The way forward will be determined following the study, e.g. further research or guidance.

A parallel workstream will consider what media and channels might be used to take forward work emerging as a result of this. Discussions with loss adjusters, insurers and other organisations are continuing.

How will the implementation of this recommendation be funded?

The costs of implementing this recommendation will be met from the funding Defra is making available to cover the cost of implementing the Pitt Review recommendations. Any additional costs will be met by prioritising spending and efficiency savings within existing budgets.

Implementation Date

The study is planned to take about three months and to report Spring 2009. A programme for the implementation of further work required in the light of that research will be identified at that time.

Recommendation 74 (Page 366)

The monitoring of the impact of flooding on the health and wellbeing of people, and actions to mitigate and manage the effects, should form a systematic part of the work of Recovery Co-ordinating Groups.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Department of Health (DH) has central surveillance and monitoring systems in place run by the Health Protection Authority (HPA). These systems in place are embedded to inform recovery work at the local level.

Continuous surveillance of health issues is undertaken as part of the normal monitoring processes undertaken by the HPA. This includes both the review of notifications of notifiable infectious diseases as well as surveillance of NHS Direct and General Practice systems which detects deviations from the normal pattern of illness generally and which picks up more minor ailments.

Laboratory reports are also reviewed for specific microbiological results coming through the surveillance systems. Any unusual diagnoses or a change in regular patterns would be picked up via this route.

DH has commissioned expert work to review the research already done analysing the psychosocial effects arising from traumas such as flooding and major incidents. Based on this work DH will be developing guidance which Primary Care Trusts (PCTs) can draw on to support their work in this field.

DH recognises that linkages into local systems are necessary, and with that in mind DH's approach locally is to:

- provide guidance to enable PCTs to put in place a mechanism for proactively identifying and dealing with those people who may need psychological support after a major incident;

- rely on local Primary Care Trusts (as members of local Recovery Co-ordinating Groups (RCGs)) to use the techniques applied in the central HPA systems to inform their own monitoring structures;

- ensure that the National Recovery Guidance reflects this requirement on local RCGs. DH will look to ensure the following wording is included in the National Recovery Guidance The RCGs need to consider the wider health and welfare impact on their communities and put in place appropriate systems to facilitate this .

Cabinet Office have confirmed that they see the role of Scientific and Technical Advice Cell as being to provide advice to the RCG (and relevant Sub-Groups) on how to carry out the long-term monitoring of health impacts, and that this is for the Civil Contingencies Secretariat to lead on in terms of ensuring the national guidance is clear on all these areas and encouraging local uptake.

How will implementation of this recommendation be funded?

Costs are minimal.

Implementation Date

DH expect that RCGs will have embedded the arrangements set out above in their own processes by 31 December 2009.

The psychosocial guidance is expected early in 2009.

Recommendation 75 (Page 371)

For emergencies spanning more than a single local authority area, Government Offices should ensure coherence and co-ordination, if necessary, between recovery operations.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Co-ordinating across local authority boundaries is a part of the role Government Offices (GOs) play during response and recovery from wide-scale emergencies.

Where the local and regional parties involved agree it will help, a Regional Civil Contingencies Committee (RCCC) will be set up to co-ordinate the regional response and recovery, which is supported by the Government Offices.

In 2007 the Government Offices recovery role was included as part of the Government Office tasking framework which is the formal mechanism by which the work of the Government Offices is agreed. The Department for Communities and Local Government has reviewed the Government Office role and capabilities for response and recovery and produced a Service Level Agreement which sets out the Government Office role in recovery from wide-scale emergencies. This is currently being considered by Regional Directors and the Communities and Local Government Board for agreement and implementation.

In tandem Government Offices are currently developing recovery plans. Uniform training for Government Office resilience staff is being developed. It will include staff in the wider Government Office who may get involved in emergencies either because they are such a wide-scale incident or because there is a prolonged recovery phase after the emergency. This training will be piloted first and then rolled out to the rest of the Government Office staff.

We are also looking to see if the National Recovery Guidance should be updated to make it clearer in defining the role of Government Offices.

How will the implementation of this recommendation be funded?

The costs associated with this recommendation will be met from existing budgets within the Government Offices.

Implementation Date

Government Offices already undertake this role, however formalisation by way of the Service Level Agreement will be implemented from the start of the new financial year (April 2009).

The Government Offices training has been agreed as a key priority and funding has been identified and set aside in 2007-08. The training is currently in development and should be ready to roll out during the Spring of 2009.

Any further changes to the National Recovery Guidance will be published in the Spring of 2009.

Recommendation 76 (Page 372)

Local Authorities should co-ordinate a systematic programme of community engagement in their area during the recovery phase.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The National Recovery Guidance published in late 2007 contains policy, guidance and case studies on community engagement during recovery. The Department for Communities and Local Government, with the Cabinet Office, will continue to promote the need for local authorities to plan for post-event community engagement and will encourage the use of the National Recovery Guidance to inform these plans.

In addition, the Compact between the third sector and the Government is currently being reviewed. As part of this review, the Government will work with the Commission for the Compact to ensure that the revised Compact forms a sound basis for implementing this recommendation, by putting in place provision for third sector engagement, cost recovery and volunteer involvement. Local compacts facilitate discussions at the local level between the third sector and statutory authorities and may be used to involve local partners in co-ordinating a response.

How will the implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

The Government will take forward this recommendation as part of its response to the present review of the Compact, due by the end of 2008.

Recommendation 77 (Page 373)

National and local Recovery Co-ordinating Groups should be established from the outset of major emergencies and in due course there should be formal handover from the crisis machinery.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The National Recovery Guidance (published in October 2007) was produced by the Government to support local responders in carrying out their recovery activities. The Guidance fully supports the principle of Recovery Co-ordinating Groups being established early in an emergency.

The Recovery Plan Guidance Template (contained in the Guidance) is being used by local responders to aid their recovery planning. This sets out suggested processes for the establishment of Recovery Co-ordinating Groups and Terms of Reference for their operation. A set of criteria to be considered as part of the handover process from the 'response' to the 'recovery' phase is also included, as well as suggested handover paperwork to mark the formal transfer of responsibility. National recovery planning is following the same principles which will be set out in the revised *Central Government Arrangements for Responding to an Emergency – Concept of Operations* document which is due to be published in early 2009.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Implemented. The principles are to be incorporated in the revised *Central Government Arrangements for Responding to an Emergency – Concept of Operations* document which is due to be published in Spring 2009.

Recommendation 78 (Page 373)

Aims and objectives for the recovery phase should be agreed at the outset by Recovery Co-ordinating Groups to provide focus and enable orderly transition into mainstream programmes when multi-agency co-ordination of recovery is no longer required.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The National Recovery Guidance (published in October 2007) was produced by the Government to support local responders in carrying out their recovery activities. The Guidance fully supports the principle of setting aims and objectives for the recovery phase as soon as the Recovery Co-ordinating Group is established.

The Recovery Plan Guidance Template (contained in the Guidance) is being used by local responders to aid their recovery planning. This sets out suggested aims and objectives that can be used by Recovery Co-ordinating Groups as a basis for further development, adjusted to reflect each emergency. National recovery planning is following the same principles which will be set out in the revised *Central Government Arrangements for Responding to an Emergency Concept of Operations* document which is due to be published in early 2009.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Implemented. A revised *Central Government Arrangements for Responding to an Emergency Concept of Operations* document is due to be published in early 2009.

Recommendation 79 (Page 374)

Government Offices, in conjunction with the LGA, should develop arrangements to provide advice and support from experienced organisations to areas dealing with recovery from severe flooding emergencies.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The National Recovery Guidance (NRG) was published last Autumn and provides case studies from specific events such as the Summer 2007 floods which give details of what happened and what was done including named contacts that can be drawn on. This acts as a system for sharing advice and support.

In addition, the Mutual Aid Working Group was tasked in October 2008 to look at whether we can further enhance the guidance. It is hoped any enhanced guidance will be available by the end of the year and published in the NRG by the spring of 2009.

How will the implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Ongoing, finalised by end of 2008.

All central government guidance should be updated to reflect the new arrangements for recovery and Local Resilience Forums should plan, train and exercise on this basis

Government Response

The Government accepts this recommendation.

Implementation so far and next steps

The National Recovery Guidance (published in October 2007) was produced by the Government to help local Responders carry out their recovery activities. The Government is currently revising and updating the Emergency, Response and Recovery guidance and will consider as part of this process how it can strengthen the advice it provides to Local Resilience Forums on their role in planning, training and exercising recovery issues.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Publication of updated Emergency Response and Recovery Guidance is provisionally expected in Spring 2009. Ongoing implementation at local level.

Recommendation 81 (Page 379)

There should be an agreed framework, including definitions and timescales, for local central recovery reporting.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government agrees there should be a standard mechanism for local authorities to report to central government. The Government will develop a reporting framework setting out the information required, and how it might be obtained, to enable the Government to monitor the recovery process and inform decisions on what central Government support may be required. This will draw on lessons learnt from last Summer's floods.

However, reporting requirements will need to be flexible, to enable additional information to be collected depending on the particular nature of the incident and operational needs, particularly at the local level.

The framework will be developed with other relevant Government departments and the Local Government Association. Consultation on the framework will take place as part of the revision of the Emergency Response and Recovery Guidance, due to take place in early 2009.

How will the implementation of this recommendation be funded?

The Government will fund the net cost of any new burden. Costs will only be incurred in the event of an emergency requiring central Government co-ordination and activation of the framework. Departments seeking information through this mechanism will commit to funding the additional costs for local authorities.

Implementation Date

Spring 2009, framework published as part of the updated Emergency Response and Recovery Guidance.

Recommendation 82 (Page 380)

Following major flooding events, the Government should publish monthly summaries of the progress of the recovery phase, including the numbers of households still displaced from all or part of their homes.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

We will put in place arrangements for publishing regular and planned summaries of progress. We aim to make more regular and consistent the information requests made of local authorities and to focus attention on the progress of recovery.

We agree in principle with the expectation of monthly progress reporting and this will be reflected in guidance i.e. Emergency Response and Recovery and National Recovery Guidance as the default position. However, we will need to be able to depart from this, if operational considerations mean that more frequent or less frequent publication is needed.

This recommendation is closely linked and dependent on **recommendation 81** (an agreed framework for recovery reporting). We will work with other relevant Government departments and the Local Government Association to develop an agreed arrangement for publishing recovery phase progress and consult as described in **recommendation 81**.

How will the implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Spring 2009, implemented in tandem with **recommendation 81** and included in the revised Emergency Response and Recovery Guidance.

Recommendation 83 (Page 391)

Local authorities should continue to make arrangements to bear the cost of recovery for all but the most exceptional emergencies, and should revisit their reserves and insurance arrangements in light of last summer's floods.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Chartered Institute of Public Finance and Accountability (CIPFA) has issued revised guidance on LAAP Bulletin 77 Local Authority Reserves and Balances which highlights the need to consider financial risk management in the budgeting process, including assessing internal and external risks (specifically including flooding).

This was published on the CIPFA website on 19 November 2008 and distributed to all local government bodies in the United Kingdom.

How will the implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Implemented.

Central Government should have pre-planned rather than ad hoc arrangements to contribute towards the financial burden of recovery from the most exceptional emergencies, on a formula basis.

Government Response

The Government supports this recommendation in part.

Implementation so far and next steps

It is not clear how a formula-based approach to recovery funding could work in practice as every emergency is different, and involves differing impacts on different sectors.

However, we already have in place the Bellwin scheme, which is well understood and designed to give local authorities confidence, in the event of a major incident, to take immediate action to safeguard life or property. Such action could include evacuation, clearing debris and water pumping.

We are also developing principles for recovery funding to provide more certainty for local authorities about the sort of exceptional circumstances where the Government would consider providing support in addition to Bellwin, and the sort of recovery costs that might be met in those circumstances.

In the event of an exceptional emergency, individual departments (Department for Communities and Local Government, Department for Transport, Defra and Department for Children, Schools and Families), will consider providing financial support for various aspects of the recovery effort. The Department for Transport already have a scheme in place (the Emergency Capital Highway Maintenance scheme) and the other departmental arrangements are currently being developed. To make it as easy as possible for local authorities to understand and access the support that might be made available, these departmental arrangements will be signposted in the National Recovery Guidance and Emergency Response and Recovery Guidance.

Principles which will underpin the departmental arrangements and help to ensure consistency and transparency for the user have been agreed. These will be set out in the National Recovery Guidance and include the following:

- The activation of any funding arrangements will be at Ministerial discretion;

- Each Department would set out the criteria against which local authorities would need to demonstrate their need for funding;

- The Government will not fund any recovery costs incurred by local authorities that are insurable, with the exception of damage to roads;

- Any funding provided will be dependent on the impact of an event on particular sectors and the funds individual departments have available at the time.

To make the process of accessing support easier, it is expected that Government Offices will, as far as possible, provide the first point of contact for local authorities.

Recoomendation 84 (Page 394)

How will the implementation of this recommendation be funded?

There is no cost to local authorities. Any funding provided by Government departments will be dependent on what funds departments are able to make available at the time by reprioritising spending from existing programmes.

Implementation Date

These arrangements will be incorporated into the updated Emergency Response and Recovery Guidance, provisionally expected Spring 2009. Once finalised, they will also be included in the National Recovery Guidance.

Recommendation 85 (Page 401)

Local Recovery Co-ordination Groups should make early recommendations to elected local authority members about longer-term regeneration and economic development opportunities.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government agrees that Local Recovery Co-ordination Groups should consider making early recommendations to elected local authority members about longer-term regeneration and economic development opportunities, as appropriate.

The Department for Business, Enterprise and Regulatory Reform has updated the National Recovery Guidance (on the UK Resilience website) to reflect this recommendation. The Government continues to encourage take up of the National Recovery Guidance by local responders in their Recovery planning.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

The Government has already updated the National Recovery Guidance.

Recommendation 86 (Page 404)

The Government should publish an action plan to implement the recommendations of this Review, with a Director in Defra overseeing the programme of delivery and issuing regular progress updates.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

This document is the action plan for which the recommendation calls. Sir Michael Pitt has agreed to provide regular, independent assessments of its implementation. The Defra Director of Floods and Water will oversee delivery of the programme of works and ensure that regular progress reports are issued.

How will implementation of this recommendation be funded?

There will be negligible new costs associated with implementing this recommendation.

Implementation Date

Assessments of progress will be made and published at approximately 6-monthly intervals commencing in June 2009.

Recommendation 87 (Page 405)

The Government should establish a Cabinet Committee with a remit to improve the country's ability to deal with flooding and implement the recommendations of this Review.

Government Response

The Government supports the recommendation.

Implementation so far and next steps

The Government has established a Miscellaneous Cabinet Committee on flooding with a remit to drive forward the improvements in flood planning. The Committee will operate in much the same way as MISC 32, the Cabinet Committee for pandemic flu planning. The inaugural meeting of the new Committee will take place in the new year.

How will the implementation of this recommendation be funded?

There is no cost associated with this recommendation.

Implementation Date

As described above.

Recommendation 88 (Page 407)

The Government should establish a National Resilience Forum to facilitate national level multi-agency planning for flooding and other emergencies.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government has considered whether the objective of improving its engagement with resilience stakeholders is best met by broadening the scope of the National Security Forum announced by the Prime Minister on 19 March this year, or by creating a different body as proposed by Sir Michael Pitt.

The Government has decided that the best approach is to establish a new body, separate from the National Security Forum. As Sir Michael proposed, the National Resilience Forum would not be a decision making body; but it would help to advise and encourage multi-agency working for a wide range of contingencies including flooding but also a broader range of risks within the purview of the Civil Contingencies Act. The Government will make detailed proposals, early in the new year for a NRF that:

- Will have a direct relationship with regional and local resilience forums and reflect the different interests present in these forums, but at the highest levels’;

- Will encompass representatives of practitioners from across the public sector resilience community, but also significant representation from external bodies with an independent interest including the private sector, the operators of critical infrastructure, and the voluntary sector;

- Will reflect the full range of interests including in flood resilience but also resilience to a wide range of other risks;

- Will meet approximately every six months, as proposed in the Pitt Review to consider issues of strategy and delivery policy aims.

How will implementation of this recommendation be funded?

This work can be met from existing resources.

Implementation Date

The Secretariat function for the National Resilience Forum will be established by the end of the year through the Civil Contingencies Secretariat in the Cabinet Office. Invitations to attend the Forum will be made in early 2009, with an aim for the inaugural meeting taking place in the first half of 2009.

Recommendation 89 (Page 407)

The EFRA Select Committee should review the country's readiness for dealing with flooding emergencies and produce an assessment of progress in implementation of the Review's recommendations after 12 months.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

It is for the Environment, Food and Rural Affairs (EFRA) Select Committee to decide whether to accept this recommendation and when to review progress. However, the Government would welcome such review and stands ready to work with the EFRA Select Committee if they decide to accept this recommendation.

How will implementation of this recommendation be funded?

For the EFRA Select Committee to determine.

Implementation Date

For the EFRA Select Committee to determine.

Recommendation 90 (Page 441)

All upper tier local authorities should establish Oversight and Scrutiny Committees to review work by public sector bodies and essential service providers in order to manage flood risk, underpinned by a legal requirement to co-operate and share information.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

Local authorities are already required to have at least one overview and scrutiny committee, and can choose whether to have additional committees or sub-committees for particular services or themes. These committees have powers to review and scrutinise decisions made by the authority or its executive, and to make reports and recommendations to the authority/executive on the discharge of its functions, and on anything which might affect the authority's area or inhabitants.

These existing powers therefore enable review and scrutiny of flood risk management. The amount of local flood risk management work that needs to be done by local authorities will vary and the Government therefore intends to leave the creation of committees to cover flooding to councils' discretion.

Once the relevant provisions of the Local Government and Public Involvement in Health Act 2007 are in force, those bodies under a duty to co-operate in the development of Local Area Agreements will also be obliged to co-operate with overview and scrutiny committees.

These existing powers could be further built on to require that bodies involved in local flood risk management (including, in particular, internal drainage boards and water companies) provide information to overview and scrutiny committees in respect of flooding, and be required to have regard to reports/recommendations. The Government will consider this alongside the new duty mentioned below.

The Government also intends including a provision in the forthcoming draft Floods and Water Bill requiring all bodies involved in flood and coastal erosion risk management to be under a duty to co-operate and share information.

How will the implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will cover this recommendation. Net new burdens on local authorities will be fully funded from the funding Defra is making available to implement the Pitt Review.

Implementation Date

The draft Floods and Water Bill will be published for consultation in Spring 2009; implementation will depend on decisions on the Parliamentary timetable.

Recommendation 91 (Page 411)

Each Oversight and Scrutiny Committee should prepare an annual summary of actions taken locally to manage flood risk and implement this Review, and these reports should be made public and reviewed by Government Offices and the Environment Agency.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government will encourage the production of annual reports on local actions to manage flood risk by the local authority executive. Any such report could then be reviewed by the relevant overview and scrutiny committee.

The Government will consider further with partners whether the production of the annual summary of actions should be a duty placed on the local authorities through the forthcoming draft Floods and Water Bill and how any summaries could best be reviewed, involving peers (such as the regional flood defence committees), to help local authorities improve their plans and ensure that issues which cross local government boundaries are successfully addressed.

How will implementation of this recommendation be funded?

The draft Floods and Water Bill will be accompanied by an Impact Assessment which will cover this recommendation. Any net new burden on local authorities will be fully funded from the funding Defra is making available to implement the Pitt Review.

Implementation Date

The draft Floods and Water Bill will be published for consultation in Spring 2009; implementation will depend on decisions on the Parliamentary timetable.

Recommendation 92 (Page 411)

Local Resilience Forums should evaluate and share lessons from both the response and recovery phases to inform their planning for future emergencies.

Government Response

The Government supports this recommendation.

Implementation so far and next steps

The Government fully recognises the importance of identifying and implementing lessons learned from exercises and emergencies, and provides advice to local responders on this in the guidance that it has issued to support implementation of the Civil Contingencies Act 2004. The Government is currently revising and updating the Emergency, Response and Recovery guidance and will consider as part of this process how it can strengthen the advice it provides to Local Resilience Forums on their role in evaluating and sharing lessons learned to inform the planning of local responders.

How will implementation of this recommendation be funded?

There are no new costs associated with implementing this recommendation.

Implementation Date

Publication of updated Emergency Response and Recovery Guidance provisionally expected Spring 2009. Ongoing implementation at local level.

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