



Department  
for Environment  
Food & Rural Affairs

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## **Chemical, Biological, Radiological, Nuclear Emergencies Evidence Plan**

**Policy portfolio: Water and Flood Risk  
Management**

**Policy area within portfolio: Chemical, Biological,  
Radiological, Nuclear**

**Timeframe covered by Evidence Plan: 2013/14 – 2017/18**

**Date of Evidence Plan: March 2013**

This evidence plan was correct at the time of publication (March 2013). However, Defra is currently undertaking a review of its policy priorities and in some areas the policy, and therefore evidence needs, will continue to develop and may change quite rapidly. If you have any queries about the evidence priorities covered in this plan, please contact [StrategicEvidence@defra.gsi.gov.uk](mailto:StrategicEvidence@defra.gsi.gov.uk).

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## Contents

1. Policy context.....	1
2. Current and near-term evidence objectives .....	2
3. Future evidence needs .....	3
4. Meeting evidence needs .....	3
5. Evaluating value for money and impact .....	4

# 1. Policy context

## What are the key policy outcomes for the policy programme/area?

Defra is responsible for ensuring that the nation recovers quickly in the event of a chemical, biological, radiological or nuclear (CBRN) incident. CBRN events, which can encompass terrorism, overseas nuclear accidents and major hazardous materials (HAZMAT) incidents, can lead to material being released to the environment accidentally or deliberately. These can range from small localised incidents to catastrophic. As Lead Government Department for recovering from a CBRN incident, Defra's aim is to respond quickly and effectively to such incidents, minimising harm to the public and environment and enabling a return to normal as soon as possible. Although CBRN incidents are usually handled through existing local arrangements and structures, Government intervention is necessary when terrorism is involved; when the impact is widespread and existing arrangements are overwhelmed (e.g. Chernobyl); or when the nature of the threat is unfamiliar and requires specialist advice (e.g. on decontamination). The CBRN team sponsors the Government Decontamination Service (GDS), which has a UK remit.

Planning, preparation and building resilience requires us to:

- Ensure we are fully prepared to act in case of a CBRN incident.
- Take responsibility on behalf of Defra as Lead Government Department (LGD) for CBRN recovery.
- Develop, maintain and update the relevant Defra Plans.
- Identify gaps in our knowledge and capability for recovery and use evidence, in particular science and technology research and expertise, to fill these gaps.
- Work with and influence others across central Government departments and agencies, local authorities, business and wider society to plan, prepare and build resilience for the response and recovery from CBRN incidents.
- Contribute to wider, more generic initiatives on resilience in particular UK (focusing on England's) recovery from major emergencies.

During an emergency we need to:

- Act as an effective LGD across Government for recovery from a CBRN incident.
- Lead and coordinate within Defra during the response and recovery phases of a CBRN incident.

Defra's work programme fits within wider government programmes relating to counter-terrorism CBRN<sup>1</sup> including at Home Office and Cabinet Office, and nuclear emergency

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<sup>1</sup> See 2012 CONTEST Strategy at: <http://www.homeoffice.gov.uk/counter-terrorism/uk-counter-terrorism-strat/> and the 2009 CONTEST Science and Technology Strategy at: <http://www.homeoffice.gov.uk/publications/counter-terrorism/science-and-technology/science-and-technology-strategy?view=Binary>

planning at DECC<sup>2</sup>. The majority of the R&D on CBRN which Defra has an interest in is done under the Home Office CBRN S&T programme, which has a total budget of around **£10M** per annum. Of this Defra CBRN team managed £446k in 11/12 and £691k in 12/13. Defra CBRN derives very good value for money from the Home Office programme enabling projects with a cross government interest to be funded from a central budget.

The majority of the outcomes and outputs from both the Defra CBRN evidence programme and the Home Office CBRN S&T programme are sensitive and classified accordingly.

## 2. Current and near-term evidence objectives

### What are the current and near-term objectives for evidence and how do they align to policy outcomes?

The **CBRN** programme aims to understand and counter CBRN threats with particular focus on recovery and Defra specific areas such as:

- animals policy;
- recovery guidance and tools;
- public attitudes and messaging during recovery from a CBRN incident; and
- hazard management and decontamination.

The CBRN budget is very modest and is focussed on Defra-specific projects or providing co-funding to other cross-government projects which align with our objectives and policy outcomes. The above objectives reflect the current policy objectives stated in Section One.

Prioritisation of Defra work is carried out alongside that undertaken across government. Policy work on public attitudes and messaging is seen as a slightly lower priority but longer term, although this still requires the evidence base to be in place to move the policy forward.

Evidence arising from the Home Office CBRN S&T programme feeds into Defra's policy work and the GDS work programme. Some of Defra's evidence programme is relevant to other government departments and agencies and this is reflected in the amount of collaboration and co-funding for those projects.

Work arising from the DECC-led Nuclear Emergency Planning programme is beginning to take shape and this will also need to be factored into any evidence requirements from the CBRN evidence programme.

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<sup>2</sup> [http://www.decc.gov.uk/en/content/cms/meeting\\_energy/nuclear/safety\\_and\\_sec/emergency\\_plan/emergency\\_plan.aspx](http://www.decc.gov.uk/en/content/cms/meeting_energy/nuclear/safety_and_sec/emergency_plan/emergency_plan.aspx)

### 3. Future evidence needs

#### **What are the longer-term evidence needs for the policy area/ programme?**

Future evidence needs for 3-5 years are currently unclear, though several very specific areas are likely to remain prominent. Future Defra work on public attitudes and messaging during recovery is a long-term policy project and evidence needs will develop in an iterative way as we gain greater understanding of what needs to be done. Work will also consider further requirements in terms of technical recovery guidance and tools. This will build on the HPA Recovery Handbooks for Radiation and Chemical Incidents produced in 2009 and 2012 respectively.

### 4. Meeting evidence needs

#### **What approach(es) will be taken to meeting evidence needs?**

Research priorities are formulated in consultation with CBRN policy colleagues, the Government Decontamination Service, other programmes in Defra through the Defra CBRN Network, and other government departments, particularly Home Office and Cabinet Office. Priorities are also currently under discussion now across government relating to the EU Horizon 2020 (H2020) security theme.

Cross-government (departments and agencies) working is essential given the limited UK resource available and is integral to our day-to-day work. We also rely on a network of technical experts (mainly natural scientists but also social researchers, veterinary and engineers) across the Defra family (other programmes and Defra agencies) and cross-government for technical expertise in appropriate areas including water quality and drinking water, animal health, decontamination, waste and radiation and nuclear. The majority of the projects funded are directly exploitable and feed directly into Defra policy development and planning.

Advantage is also taken of research undertaken in other countries with formal exchanges of information carried out in specific high priority areas particularly on environmental sampling and decontamination. We are working closer with other countries in the EU by providing matched funding for a FP7 project on agri-security.

Evidence needs for CBRN are established in a collaborative manner, within the cross-government research programme and the more Defra focussed small R&D programme. We will continue to contribute actively to these processes to ensure Defra can maintain its role in CBRN recovery.

Across the programme, through continued networking we aim to continue to seek opportunities for collaborative research across the scientific disciplines, both domestically and overseas, to secure greater returns for our small resource outlay.

## 5. Evaluating value for money and impact

### **What approach(es) will be taken to maximise and evaluate value for money and impact from evidence?**

Evidence needs are formally assessed on an annual basis, however they are assessed informally on a much more frequent basis as policy projects develop. Prioritisation is undertaken through considering the requirement for and size of the work relative to other potential projects, alongside the likelihood of success and potential for exploitation of the work. Wider cross-government evidence needs are generally considered annually during the summer to allow the Home Office to issue calls for proposals on priority areas.

Outputs from the projects are generally reviewed by other CBRN technical and policy experts with knowledge of particular areas. Formal reviews alongside other government funded projects on similar topics take place allowing Defra CBRN and GDS to take stock of our own work programmes and those elsewhere.

Evidence produced by the projects is generally disseminated to CBRN technical and policy experts across government through Home Office and Cabinet Office meetings, workshops and conferences. Where possible and appropriate, some of the work is published in the open peer-reviewed literature.

A light-touch review, proportionate to the size of the programme will be conducted in 2013-4. This will consider the quality and robustness of the evidence; the impact of the evidence on policy; and the success measures against which the evidence will be measured.

Value for money is maximised through the CBRN team's management of Home Office funded projects which feed directly into Defra CBRN policy and continued co-funding of other projects fulfilling multiple cross-government objectives. In the recent years these have returned approximately a 1:5 gearing of Defra to other funding.

Secondary benefits have been accrued from evidence activities funded through both Defra and Home Office. These have included exploitation of research findings in areas other than those originally intended, ensuring wider take-up of technology. The CBRN team have held a number of workshops to assist in the wider exploitation of work funded by both Defra and Home Office. For example, a novel catalyst used to decompose a wide range of water contaminants in an emergency has been piloted by the water industry for day-to-day use. Other projects on fast detection of biological organisms in emergencies have been considered for more routine uses in other government departments, such as Department of Health, and agencies, such as AHVLA.